Learning Objectives

- At the end of the presentation, the participant will be able to:
- Describe the need for contraception in the postpartum period.
- Estimate the risk of VTE in immediate postpartum period and impact estrogen containing methods might have on those risks.
- Counsel women on the risks that use of progestin-only methods might have on breastfeeding success.
- Outline the procedures for immediate postpartum IUD placement and estimate the rates of complications.

Postpartum Contraception: Healthy People 2010 Goals

- Increase percent of pregnancies that are intended pregnancies to 70%
- Reduce the percent of births occurring within 24 months of a previous birth to 67%
- Reduce the proportion of conceptions within 18 months by 10% in 2020


Optimal Pregnancy Spacing

Utah 1989 to 1996: 173,205 birth certificates

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Odds Ratios</th>
<th>&lt; 6 Months</th>
<th>&gt; 120 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low birth weight</td>
<td>1.4 (1.3 - 1.6)</td>
<td>2.0 (1.7 - 2.4)</td>
<td></td>
</tr>
<tr>
<td>Preterm birth</td>
<td>1.4 (1.3 - 1.5)</td>
<td>1.5 (1.3 - 1.7)</td>
<td></td>
</tr>
<tr>
<td>Small for gestational age</td>
<td>1.3 (1.2 - 1.4)</td>
<td>1.8 (1.6 - 2.0)</td>
<td></td>
</tr>
</tbody>
</table>

Optimal interpregnancy interval is 18 to 23 months


Short Interpregnancy Interval Other Findings

- Risk of preterm delivery attenuates with advanced maternal age¹
- Risk of preterm delivery greatest for early <34 weeks (OR = 3.9) rather than late preterm deliveries (34-37 weeks)(OR = 0.8)²
- Interval < 6 months and 6 – 12 months increased risk of extreme preterm birthing and recurrent preterm birth³

Recent Preterm Delivery: Risk Factor for Poor Contraceptive Practices

- Philadelphia Collaborative Preterm Prevention Project
- Women who delivered ≤ 35 weeks
  - 566 followed 6 months and were sexually active
    - 90.1% said no desire for another pregnancy within 12 months of PTB infant
    - 54.6% of these using low or moderately effective method
    - 16.3% used withdrawal

Women who delivered ≤ 35 weeks were followed 6 months and were sexually active.
90.1% said no desire for another pregnancy within 12 months of PTB infant.
54.6% of these using low or moderately effective method.
16.3% used withdrawal.

Optimal Birth Spacing

- In low resource populations, an interval of less than 2 years results in
  - 1st child:
    - Higher rates of malnutrition and infection
  - 2nd child:
    - Low birthweight
    - Preterm delivery
    - Infant death

Unique Aspects of Postpartum Contraception

- May be only time women have access to medical care
  - Not true in California with Family PACT
- Women vulnerable to infection, hemorrhage, thrombosis
- Other considerations for postpartum contraception
  - Impact on lactation
  - Insurance coverage
  - US MEC provides medical guidance
  - Financial consideration may have veto power

Return to Fertility and Menstruation

- 25% of women ovulated between 25 - 39 days postpartum.

Return to Fertility

- Women who are “partially” breastfeeding
  - Up to ½ will ovulate before the 6th week postpartum
- In women who are formula feeding or partially breastfeeding
  - Contraception should be started no later than third week postpartum
- Many women lose insurance coverage before 6th week

Other Considerations in Postpartum Contraception

- 20% of women resume sexual activity before 4 weeks
- Younger women have return to fertility more quickly postpartum than older women
- More than 50% of first menses after delivery procedure by ovulation
- 50% of ovulators have active luteal phase

References:
US Report Card

- One third of all repeat pregnancies conceived within 18 months of prior birth\(^1\)
- Minority and low-income women more likely to have short birth intervals as result of unintended pregnancy vs. middle class or white women\(^2\)
- California data:
  - Contraceptive coverage: 3.81 months\(^3\)
  - 55% got 2\(^{nd}\) tier method
  - 33% had no contraceptive claims


US Report Card

Variation in Postpartum Methods

- 18 states PRAM (Pregnancy Risk Assessment Monitoring System) 2000-2008
- Variability access states:
  - Female sterilization 7.0-22.6%
  - Implant, IUD 1.9-25.5%
  - Oral contraception 22.0-34.2%
- Not explained by differences in Medicaid coverage
  - New York 10.7% IUDs & Implants
  - Oregon 24.4% IUDs & Implants

Lessons from California Birth Statistical Master File (BSMF)

- Provision of contraceptives within the first 90 days after delivery associated significantly with optimal interpregnancy intervals of at least 18 months\(^1\)
- Top tier methods vs barriers
  - 3.89 optional interval\(^2\)
- Second tier methods vs barrier
  - 1.89 times optional intervals\(^2\)


Postpartum Sterilization

ACOG Opinion 530

- Not all women who request postpartum sterilization get procedure done.
- Women who do not have procedure done: repeat pregnancy rate within 12 months about 51%
- Postpartum sterilization should be considered urgent surgical procedures
- Need to simplify and standardize consents needed for sterilization
- Other thoughts (ALN): Reimburse for IUD and implants

Lessons from California Birth Statistical Master File (BSMF)

- Provision of contraceptives within the first 90 days after delivery associated significantly with optimal interpregnancy intervals of at least 18 months\(^1\)
- Top tier methods vs barriers
  - 3.89 optional interval\(^2\)
- Second tier methods vs barrier
  - 1.89 times optional intervals\(^2\)

**Need Postpartum Contraception**

- 1460 deliveries tracked
  - 296 requested and got tubal ligation (BTL)
  - 133 requested but did not get BTLs

<table>
<thead>
<tr>
<th></th>
<th>Control</th>
<th>No BTL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postpartum: BCM</td>
<td>41.1%</td>
<td>42.8%</td>
</tr>
<tr>
<td>Postpartum appointment</td>
<td>20.3%</td>
<td>16.8%</td>
</tr>
<tr>
<td>% pregnant at 12 months</td>
<td>22.3%</td>
<td>46.7%</td>
</tr>
</tbody>
</table>

**Ooops! She Didn’t Get Her BTL Postpartum!**

- Retrospective cohort study – women and infants in Providence, RI
- 626 women delivered
  - 87 wanted postpartum sterilization
  - 45 got planned procedure
- Older age and C/section: ↑ chance of BTL
- Married and high BMI: ↓ chance of BTL

**Medicaid Sterilization Consent Policies: Protection or Barrier?**

- 30 day mandatory waiting period between consent and procedure
- Physical transport of signed consent to hospital poses significant logistical barrier
- 46.7% of sterilization requests unfilled
- Half due to Medicaid barriers


**Medicaid Sterilization Consent Policies: Protection or Barrier?**

- Model: amended policy – no wait
- Impact on postpartum sterilization (80% of requests)
  - 45% increase in fulfilled requests (to 77.5%)¹
  - 29,000 fewer unintended pregnancies annually¹
  - $215 million saved¹


**Rapid Repeat Teen Pregnancy (RPP)**

- Risk of repeat pregnancy within 2 years: 35%
  - After delivery, most young women intend to avoid pregnancy
  - Many become ambivalent within months
  - Lack of contraceptive use more likely
    - Early resumption of coitus
    - Living with male partners
    - Prior preterm delivery
    - Prior unintended teen pregnancy
  - No LARC users – 35 fold higher risk of RPP

**Lactogenesis**

- During pregnancy, hormonal changes induce breast development and differentiation
  - Prolactin and human placental lactogen levels rise
  - Only colostrum produced because progesterone interferes with prolactin
- After delivery E₂ and P levels fall:
  - Prolactin levels rise with suckling
  - Full lactation ensues


Rodriguez MI et al. Contraception. 2009;80(1):4-6
Lactation Benefits
- Benefits to mother
  - Bonding with newborn
  - Protection against ovarian, premenopausal breast cancer
  - Lower cost than formula
- Benefits to newborn
  - Perfectly balanced nutrition
  - Bonding with mother
  - Reduction in newborn allergies and infections

Lactational Amenorrhea
- Postpartum the hypothalamus-pituitary-ovarian axis suppressed
  - Lactation raises prolactin to block axis
    - Spontaneous breastfeeding
    - 90% of newborn’s caloric intake

Lactational Amenorrhea
- First 6 months, amenorrhea induced by breastfeeding
  - 6 month failure rate 2%
  - Menses generally precedes ovulation
  - Bleeding in first 56 days does not count
- After 6 months, ovulation precedes menses
  - Women at risk without notice

Why Postpartum Women Do Not Use Birth Control
- Multinational analysis of national survey results
  - 17% of women who are not using contraception cite their breastfeeding and amenorrhea
  - Only 26% of reported LAM users were correct users
  - Many women breastfeed for only a few months

Relative Risks of Thrombosis Postpartum
- Postpartum period: time of greatest VTE risk
  - 21.5 – 84 fold greater than nonpregnant, non postpartum reproductive-age women
  - Declines rapidly during first 3 weeks
    - Between 4 – 6 weeks VTE risk 5 – 7 times that of nonpregnant non postpartum women
  - Use of estrogen-containing methods increases VTE rates by 3 – 7 fold


## Nelson: Postpartum Contraception

### Old Estimates of Absolute Risks of VTE

<table>
<thead>
<tr>
<th>Category</th>
<th>Risk Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-pregnant women</td>
<td>1/10,000 women</td>
</tr>
<tr>
<td>Combined hormonal contraception users</td>
<td>3-9/10,000 women</td>
</tr>
<tr>
<td>Pregnancy</td>
<td>5-20/10,000 deliveries</td>
</tr>
<tr>
<td>Postpartum</td>
<td>51/10,000 deliveries</td>
</tr>
</tbody>
</table>

Death from VTE is 1.1/100,000 deliveries

---

### Absolute Risk VTE: SOGC 2010 Estimates

<table>
<thead>
<tr>
<th>Category</th>
<th>Risk Per 10,000 Women per Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reproductive age women non-users</td>
<td>4 - 5</td>
</tr>
<tr>
<td>Oral contraceptive users</td>
<td>9 - 10</td>
</tr>
<tr>
<td>In pregnancy - overall</td>
<td>29</td>
</tr>
<tr>
<td>Postpartum</td>
<td>300 - 400</td>
</tr>
</tbody>
</table>

OCs actually decrease overall rate of VTE in the population compared with rates in populations without access to effective contraception

---

### Risk Factors for VTE: US MEC

- Age >35
- Prior VTE
- Thrombophilia
- Immobility
- Transfusion at delivery
- BMI ≥ 30
- Postpartum hemorrhage
- C-section delivery
- Preeclampsia
- Smoking

---

### US MEC Postpartum Recommendations

#### Non-breastfeeding Women

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>COC/P/R</th>
<th>POP</th>
<th>DMPA</th>
<th>Implants</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 21 Days</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>21 Days to 42 Days</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Without other risk factors for VTE</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>&gt; 42 Days</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

---

#### Breastfeeding Women

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>COC/P/R</th>
<th>POP</th>
<th>DMPA</th>
<th>Implants</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 21 days</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>21 days to &lt; 30 days</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Without other risk factors for VTE</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>&gt; 42 days</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

---

### US MEC Postpartum Recommendations Breastfeeding Women 0 - 30 Days

<table>
<thead>
<tr>
<th>Timeframe</th>
<th>COC/P/R</th>
<th>POP</th>
<th>DMPA</th>
<th>Implants</th>
</tr>
</thead>
<tbody>
<tr>
<td>30 – 42 days</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Without other risk factors for VTE</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>&gt; 42 days</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

---

Whiteman M et al. MMWR 2009;58(30):821-26
Nelson: Postpartum Contraception

Summary of Recommendations

IUD Use

<table>
<thead>
<tr>
<th>Duration of Use</th>
<th>LNG-IUD</th>
<th>Cu-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</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>

Progestogen-only Contraceptive Use

Among Breastfeeding Women

- Systematic review of all studies of progestin-only methods in breastfeeding women with reports about contraceptive outcomes of either women or their infants
- 43 articles: 5 randomized: 38 observational
- No adverse effects of various progestin-only methods on multiple measures of breastfeeding performance through 12 months

Progestogen-only Contraceptive Use

Among Breastfeeding Women: Infant Impacts

- No adverse effects demonstrated in infant growth, health or development from 6 months to 6 years of age
- No effects on infant immunoglobulins
- No effect on sex hormones of exposed male infants

DMPA and Lactogenesis

- Theoretical concern: progestin could block prolactin
- Evidence shows progestin-only contraceptives do not impair lactation
- Progestin-only contraceptives may actually increase the quality and duration of lactation
- No adverse impact on lactogenesis

Remember Progestin-Only Pill: The Go-To Pill!

- US MEC: only one category 4 condition
  - Recent breast cancer (in last 5 years)
  - Efficacy in typical use rated equivalent to estrogen containing OCs
  - No studies of efficacy of US POPs since 1960s
  - Remaining perceptions of POPs (no data)
    - Higher rates of unscheduled bleeding or spotting
    - Higher rates of discontinuation

DMPA Issues in the Immediate Postpartum Period

- Product labeling recommends initiation 4-6 weeks postpartum
- Concerns about newborn safety
- Possible adverse impact on lactogenesis
- Possible adverse impact on quality and quantity of breast milk
- VTE Risk
**DMPA: Product Labeling**

- Product labeling recommends initiating DMPA 4 - 6 weeks postpartum regardless of breastfeeding status.
- Clinical trials were conducted in Family Planning clinics that do not see postpartum women earlier.
- Labeling must always reflect the data gathered from those trials.


**DMPA: Newborn Safety Facts**

- Newborns are not able to absorb progestins from breast milk until about 3 months of age.
- Same age as they are able to metabolize them hepatically.
- Amount transferred to breastfeeding neonate over 3 months is 0.05% of maternal dose.
- Urine of neonates breastfeeding from moms using DMPA found to have no detectable metabolites of DMPA.
- No changes in gonadotropins or hormones.


**Early Administration of Progestin-only Methods: Impacts on Breastfeeding**

<table>
<thead>
<tr>
<th></th>
<th>Percent women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>By 6 weeks</td>
</tr>
<tr>
<td></td>
<td>Total</td>
</tr>
<tr>
<td>Any breastfeeding</td>
<td>74.4</td>
</tr>
<tr>
<td>Exclusive breastfeeding</td>
<td>35.5</td>
</tr>
<tr>
<td>Supplementing 2° insufficient milk</td>
<td>61.2</td>
</tr>
<tr>
<td>Stopped breastfeeding 2° insufficient milk</td>
<td>40.0</td>
</tr>
</tbody>
</table>


**DMPA Within 1 Week of Delivery**

- No adverse impact on lactation patterns.
- No adverse impacts on neonatal outcomes.


**DMPA and Postpartum Depression**

- Retrospective chart review: 404 charts postpartum EPDS Score % With PPD
- Edinburgh Depression Scale (EPDS) routinely given at 6-week visit

<table>
<thead>
<tr>
<th>EPDS Score</th>
<th>% With PPD</th>
</tr>
</thead>
<tbody>
<tr>
<td>55 - immediate DMPA</td>
<td>5.02</td>
</tr>
<tr>
<td>192 - no hormones</td>
<td>6.17</td>
</tr>
<tr>
<td>p Score</td>
<td>0.16</td>
</tr>
</tbody>
</table>


**DMPA and Weight Gain Postpartum**

- DMPA users vs. women with BTL
- Several anthropometric measures taken 1 year postpartum
- DMPA users did not differ from BTL group in weight or percent body fat changes
- Half DMPA users returned to prepregnancy weight
- Half DMPA users gained weight
- Overweight, obese women gained weight

ENG Implant Immediately Postpartum
- 40 breastfeeding women randomized
  - 20 ETG implant 24 – 48 hours postpartum
  - 20 DMPA at 6 weeks
  - 50% had intercourse before 6 week visit despite instructions for abstinence
  - Headaches were more common among implant users
  - 45% vs 10%

Brito MB et al. Contraception. 2009(80):519-526

50% had intercourse before 6 week visit despite instructions for abstinence

Headaches were more common among implant users
45% vs 10%

Brito MB et al. Contraception. 2009(80):519-526

Lochia: 13 ± 3 days implant vs 12 ± 4 days other

No significant adverse impacts on women's weight, BP, lipids, hemoglobin

No significant adverse impacts on infant weight gain

No significant adverse impact on breastfeeding continuation

Brito MB et al. Contraception. 2009(80):519-526

Implants and Lactogenesis
- 69 women randomly assigned
  - Early: 1 – 3 days
  - Standard: 4 – 8 weeks

<table>
<thead>
<tr>
<th></th>
<th>Implant</th>
<th>COC/DMPA</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Repeat pregnancy by 24 months</td>
<td>27</td>
<td>40</td>
<td>50</td>
</tr>
<tr>
<td>Mean time (months)</td>
<td>23.8</td>
<td>18.1</td>
<td>17.6</td>
</tr>
</tbody>
</table>

6 week milk composition not different
6 month followup:
  - Use of formula not different between groups


Immediate Postpartum Implants (IPI)
- Prospective observational study of adolescent postpartum women

<table>
<thead>
<tr>
<th></th>
<th>LNG-EC</th>
<th>Copper IUD</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>171</td>
<td>225</td>
</tr>
<tr>
<td>6 month data:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% continuation</td>
<td>96.9</td>
<td></td>
</tr>
<tr>
<td>% pregnant</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>12 months:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% continuation</td>
<td>86.3</td>
<td>18.6*</td>
</tr>
<tr>
<td>% pregnant</td>
<td>2.6*</td>
<td>38.5</td>
</tr>
</tbody>
</table>

* None in current users

Teen Mothers Australia
- 137 teens < 18 years
  - Selected method within 4 months
    - 53% Implanon
    - 29% COC, DMPA
    - 18% Barrier
  - Followed every 4 months for up to 24 months


Outcomes of Australian Study
- By 6 weeks, 47% resumed sexual activities
  - 2 were pregnant
  - 9% wanted pregnancy again

<table>
<thead>
<tr>
<th></th>
<th>Implant</th>
<th>COC/DMPA</th>
<th>Other</th>
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<td>23.8</td>
<td>18.1</td>
<td>17.6</td>
</tr>
</tbody>
</table>

Etonogestrel Implant Postpartum: Brazilian Teens

- ENG implant placed mean: 102 days postpartum
- 65% breastfeeding
- Followed 12 months
- No women requested implant removal
- No pregnancies
- 20% of COC users got pregnant


Contraception and Rapid Repeat Pregnancies – Minority Teens

- 32 primiparous adolescent mothers
  - Interviewed 5 times in first 12 months postpartum
  - At 3 months contraceptive use
    - 15 DMPA
    - 4 IUD
    - 4 Combined hormonal
  - By 12 months: 4 repeat pregnancies

Martins SI. Contraception. 2011(84):302-336

IUD Placement Postpartum: Cochrane Review Summary Findings

- Immediate placement within 10 minutes of delivery of placenta
  - Safe when compared to delayed postpartum placement
  - Lower expulsion than later postpartum
  - Higher expulsion than interval
  - Immediate placement at C-section
  - Lower expulsion than following vaginal deliveries


Postpartum IUD Placement

- IUD expulsion rates following placement at C-section lower than following vaginal delivery
- Suturing IUD to uterine wall does not reduce risk of expulsion
- Placement with cervical dilation < 2cm lowers risk of expulsion
- Women who receive immediate postpartum placement 10 times more likely to get IUDs placed than women who were asked to wait for uterine involution


Turkey Study: Expulsions 1 Year Follow-up

<table>
<thead>
<tr>
<th>Placement Done</th>
<th>Complete or partial expulsions</th>
<th>Pregnancy rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 10 min.</td>
<td>36.9%</td>
<td>2.4%</td>
</tr>
<tr>
<td>10 min.-72 hr</td>
<td>69.8%</td>
<td>4.7%</td>
</tr>
<tr>
<td>&gt; 6 wks</td>
<td>6.9%</td>
<td>3.1%</td>
</tr>
</tbody>
</table>

Partial expulsion = ultrasound-detected downward displacement of the IUD

More Study Details

<table>
<thead>
<tr>
<th>Placement Done</th>
<th>Egyptian expulsion rates</th>
<th>Kenyan expulsion rates</th>
<th>Ultrasound study: expulsion rates</th>
<th>Pooled analysis expulsion rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 10 min.</td>
<td>2.4%</td>
<td>5.0%</td>
<td>&lt; 10 min.</td>
<td>≤ 10 min.</td>
</tr>
<tr>
<td>10 min. to 48 Hrs</td>
<td>2.6%</td>
<td>1.0%</td>
<td>1/2 to 55 Hours</td>
<td>2.8 – 37.3%</td>
</tr>
</tbody>
</table>

Immediate vs 6 Weeks Placement Mexico Study

<table>
<thead>
<tr>
<th></th>
<th>≤ 10 min.</th>
<th>≥ 6 Weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 month expulsion rates</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>16.0%</td>
<td>2.1%</td>
</tr>
<tr>
<td>Nulliparous</td>
<td>14.3%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Parous</td>
<td>25.9%</td>
<td>4.0%</td>
</tr>
</tbody>
</table>

Things That Do Not Increase Use of IUDs/Implants Postpartum

- Randomized, controlled trial
  - 50 low-income postpartum women desiring LARC
  - Telephone contact to provide contraception education, facilitation of insurance coverage, appointment scheduling and assistance with childcare and transportation
  - No difference in percentage women who got top tier methods 67% vs. 72%

2 Visit IUD Placement Protocols Create Barriers

- Retrospective database review: medicaid-insured women
  - 708 women requested IUDs at first visit
    - 385 (54.4%) had IUD placed
      - Single women less likely: (52.4% vs. 70.3%)
      - IUD ordered at GYN vs. OB office:
        - (60% vs. 50.2%)

POP's vs COCs Started Postpartum in Breastfeeding Women

- Randomized, blinded study of breastfeeding women
  - 2 weeks postpartum visit
  - Given 8 week supply
  - Contacted weekly, weeks 4-7
  - Returned to office week 8

POP's vs COCs Started Postpartum in Breastfeeding Women

- Randomized, blinded study of breastfeeding women
  - 2 weeks postpartum visit
  - Given 8 week supply
  - Contacted weekly, weeks 4-7
  - Returned to office week 8

<table>
<thead>
<tr>
<th>Breastfeeding</th>
<th>POP</th>
<th>COC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Randomized (n)</td>
<td>64</td>
<td>63</td>
</tr>
<tr>
<td>At 8 Weeks</td>
<td>41/48</td>
<td>40/40</td>
</tr>
<tr>
<td>At 6 months</td>
<td>28/29</td>
<td>26/30</td>
</tr>
</tbody>
</table>
Other Findings

- At 2 week postpartum visits
  - 1/3 of women already supplementing with formula
- At 8 Weeks
  - 64% were breastfeeding (any)
  - 28.9% were exclusively breastfeeding

Hormonal Contraceptives’ Impact on Infant Growth While Breastfeeding

- 40 breastfeeding mothers initiated method postpartum day 42
- COC, LNG-IUS, ENG POP or CuIUD
- Days 42, 52, 63 Deuterium (0.5g/kg subject weight)
- Outcomes:
  - Mean milk intake
  - Mean growth increase
  - Mean number of breast feeding episodes
  - Daily wet diaper changes
  - Mean duration of exclusive breastfeeding
  - None of methods affected amount of infant milk intake or growth up to 9 weeks of age
  - Breastfeeding continuation rates similar

Quick Start Method at 6 Week Visit

- Retrospective study: 979 patients at 6 week postpartum visit at FQHC 2004-6
- Standard protocols until July 2005, then Quick Start

<table>
<thead>
<tr>
<th></th>
<th>Standard Protocols</th>
<th>Quick Start Protocol</th>
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</thead>
<tbody>
<tr>
<td>n</td>
<td>516</td>
<td>46%</td>
</tr>
<tr>
<td>% asking for contraception</td>
<td>80%</td>
<td>26%</td>
</tr>
<tr>
<td>Did not get contraception</td>
<td>26%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Male Condom Use Postpartum

- Excellent choice to reduce risk of infection
- But does not completely eliminate it
  - Vaginal flora introduced through cervix
- Issue:
  - Dry vagina, especially with breast feeding
  - Use of appropriate lubricant helpful

Female Barrier Use Postpartum

- Female condom
  - Provides protection against pathogens
  - Semen born and some vaginal flora
- Diaphragm, Fem Cap
  - Need to refit and wait for cervical normalization
- Sponge
  - May be used once bleeding stops
- Other spermicides
  - Probably suppository or film better
  - Foam injects air into vagina (uterus?)

Other Methods

- Coitus interruptus – always available
- Prudent to wait until bleeding stops
- Fertility awareness – not appropriate until cycle resumes.
What We Don’t Have

- Progesterone only vaginal ring
- Nestorone vaginal ring

What About EC?

- Levonorgestrel EC
  - OK in breastfeeding women
- Yuzpe method
  - Follow prescriptions outlined for estrogen-containing methods postpartum
- Ulipristal acetate
  - Not tested in breastfeeding women
  - No adverse impacts anticipated
- Copper IUD
  - Okay once uterus involuted established

Contraceptive Counseling During Pregnancy: Young Minority Women

- Focus group recommendations
- Frequent, short episodes of contraception counseling throughout pregnancy
  - In order to explain contraception “step by step”
- During pregnancy best time
  - “When you have time to decide”

Contraceptive Counseling During Pregnancy: Young Minority Women

- Following delivery:
  - Review of options, reassurance and reinforcing instruction
- Postpartum visit:
  - Repeat of steps following delivery
  - Multiple ways of teaching

Antenatal Contraceptive Counseling

- Review of 528 deliveries at Brown University
- Factors associated with antenatal counseling
  - Non-Hispanic white women (OR = 1.5)
  - > 10 prenatal visits (OR = 6.2)
  - Being seen by nurse practitioner vs. resident (OR = 4.5)

Counselling During Pregnancy Helps

- Data from 198,323 women in PRAMS
  - Pregnancy Risk Assessment Monitoring System
- Women who received counselling vs. no counselling
  - Those with unintended pregnancy more likely to use postpartum contraception
  - 83.6% vs. 16.4%