Postpartum Contraception: Best Practices

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Disclosures

- Coming from Utah
Goals

- To change old, outdated practices for the better
- To dispel the myths surrounding safe and appropriate postpartum contraception
- To provide tools for being the best practitioner you can be!

Your patients and their families will thank you!
The Postpartum Visit: Timing is Everything

“Six weeks” is an old tradition → No Longer Relevant

A **3-week visit** would be more effective in preventing postpartum conception by initiating effective contraception at this time, instead of after the 6-week visit

Return to Ovulation

Non-breastfeeding women

- Within 3-5 weeks postpartum:
  - Prolactin levels return to normal
  - GnRH pulsatility returns
  - Mean delay of return to ovulation:
    45 days, earliest 25 days

Ovulation may occur as early as 3 weeks postpartum

Return to Ovulation

Breastfeeding women

- Prolactin continues to inhibit GnRH pulsatility

- Bellagio Consensus:
  - Full Breastfeeding + Amenorrhea = 98% Protection for first 6 months

After 6 months or with menstruation protection declines

Return to Sexual Activity

- We say “not before 6 weeks,” but why?
  - Historically: risks of infection
- New parents embarking on new, exciting journey
- What are women really doing?

No Surprises

- Planned pregnancies are the healthiest pregnancies

- Early discussion to have a plan!

- Change practice for the better
Comparing Effectiveness of Family Planning Methods

More effective
Less than 1 pregnancy per 100 women in 1 year

- Implants
- IUD
- Female sterilization
- Vasectomy

How to make your method more effective

- Implants, IUD, female sterilization: After procedure, little or nothing to do or remember
- Vasectomy: Use another method for first 3 months
- Injectables: Get repeat injections on time
- Lactational amenorrhea method, LAM (for 6 months): Breastfeed often, day and night
- Pills: Take a pill each day
- Patch, ring: Keep in place, change on time
- Condoms, diaphragm: Use correctly every time you have sex
- Fertility awareness methods: Abstain or use condoms on fertile days. Newest methods (Standard Days Method and TwoDay Method) may be easier to use.

Less effective
About 30 pregnancies per 100 women in 1 year

- Withdrawal
- Spermicides

Male condoms
Diaphragm
Female condoms
Fertility awareness methods
**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/reproductivehealth/usmec](http://www.cdc.gov/reproductivehealth/usmec).

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.

### Table of Conditions and Sub-conditions

<table>
<thead>
<tr>
<th>Condition</th>
<th>Sub-condition</th>
<th>Combined pill, patch, ring</th>
<th>Progestin-only pill</th>
<th>Injection</th>
<th>Implant</th>
<th>LNG-IUD</th>
<th>Copper-IUD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
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<td></td>
<td>Menarche to &lt;20 years</td>
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<td>Monarch to &lt;20 years</td>
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<tr>
<td>Anatomic abnormalities</td>
<td>a) Diminished uterine cavity</td>
<td>2* 2*</td>
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<td>2* 2*</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>b) Other abnormalities</td>
<td>2 2 2 2</td>
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<td>2 2 2 2</td>
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<tr>
<td>Aneurismas</td>
<td>a) Thalassemia</td>
<td>2 2 2 2</td>
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<td>2 2 2 2</td>
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<td></td>
<td>b) Sickle cell disease</td>
<td>3 3 3 3</td>
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<td>3 3 3 3</td>
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<tr>
<td>Benign ovarian tumors</td>
<td>(including cysts)</td>
<td>1 1 1 1</td>
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<td>1 1 1 1</td>
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<tr>
<td>Breast disease</td>
<td>a) Undiagnosed mass</td>
<td>2* 2* 2* 2*</td>
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<td>2* 2* 2* 2*</td>
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<tr>
<td></td>
<td>b) Benign breast disease</td>
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<td></td>
<td>c) Family history of cancer</td>
<td>1 1 1 1</td>
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<td>1 1 1 1</td>
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<td></td>
<td>d) Breast cancer*</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>i) current</td>
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</tr>
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<td></td>
<td>ii) past and no evidence of current disease for 5 years</td>
<td>3 3 3 3</td>
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<td>3 3 3 3</td>
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<tr>
<td>Breastfeeding</td>
<td>a) &lt; 1 month postpartum</td>
<td>3* 3* 3* 3*</td>
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<td>3* 3* 3* 3*</td>
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<tr>
<td></td>
<td>b) 1 month or more postpartum</td>
<td>2* 2* 2* 2*</td>
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<tr>
<td>Cervical cancer</td>
<td>a) Abnormal treatment</td>
<td>2 2 2 2</td>
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<td>2 2 2 2</td>
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<tr>
<td>Cervical ectropion</td>
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<td>1 1 1 1</td>
<td></td>
<td>1 1 1 1</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Cervical intraepithelial neoplasia (CIN)</td>
<td>1 1 1 1</td>
<td></td>
<td>1 1 1 1</td>
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<td></td>
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<tr>
<td>Cirrhosis</td>
<td>a) MIB (compensated)</td>
<td>2 2 2 2</td>
<td></td>
<td>2 2 2 2</td>
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<td></td>
<td>b) Severe (decompensated)</td>
<td>1 1 1 1</td>
<td></td>
<td>1 1 1 1</td>
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<td></td>
</tr>
<tr>
<td>Deep vein thrombosis (DVT) / Pulmonary embolism (PE)</td>
<td>i) History of DVT/PE not on anticoagulant therapy</td>
<td>1 1 1 1</td>
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<td>1 1 1 1</td>
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<tr>
<td></td>
<td>ii) Higher risk for recurrent DVT/PE</td>
<td>2 2 2 2</td>
<td></td>
<td>2 2 2 2</td>
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<tr>
<td></td>
<td>iii) Lower risk for recurrent DVT/PE</td>
<td>3 3 3 3</td>
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<td>3 3 3 3</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>b) Acute DVT/PE</td>
<td>4 4 4 4</td>
<td></td>
<td>4 4 4 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>c) DVT/PE established on anticoagulant therapy for at least 3 months</td>
<td>1 1 1 1</td>
<td></td>
<td>1 1 1 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>i) Higher risk for recurrent DVT/PE</td>
<td>2* 2* 2* 2*</td>
<td></td>
<td>2* 2* 2* 2*</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>ii) Lower risk for recurrent DVT/PE</td>
<td>3* 3* 3* 3*</td>
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<td>3* 3* 3* 3*</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>d) Family history (first-degree relatives)</td>
<td>2 2 2 2</td>
<td></td>
<td>2 2 2 2</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>e) Major surgery</td>
<td>1 1 1 1</td>
<td></td>
<td>1 1 1 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>f) Minor surgery without immobilization</td>
<td>1 1 1 1</td>
<td></td>
<td>1 1 1 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depressive disorders</td>
<td></td>
<td>1 1 1 1</td>
<td></td>
<td>1 1 1 1</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes mellitus (DM)</td>
<td>a) History of gestational DM only</td>
<td>1 1 1 1</td>
<td></td>
<td>1 1 1 1</td>
<td></td>
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</tr>
</tbody>
</table>

*Note: This chart is a subset of the full U.S. Medical Eligibility Criteria for Contraceptive Use, 2010. For complete guidance, visit [www.cdc.gov/reproductivehealth/usmec](http://www.cdc.gov/reproductivehealth/usmec).
## DAYS POSTPARTUM

<table>
<thead>
<tr>
<th></th>
<th>&lt;21 Breastfeeding</th>
<th>21-29 Breastfeeding</th>
<th>30-42 Breastfeeding</th>
<th>21-42 Non-Breastfeeding</th>
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</thead>
<tbody>
<tr>
<td>Combined Hormonal Methods</td>
<td>4</td>
<td>3*</td>
<td>3*§</td>
<td>3*§</td>
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<tr>
<td>Progestin-only Pills</td>
<td>2*</td>
<td>2*</td>
<td>1*</td>
<td>1</td>
</tr>
<tr>
<td>DMPA</td>
<td>2*</td>
<td>2*</td>
<td>1*</td>
<td>1</td>
</tr>
<tr>
<td>Implant</td>
<td>2*</td>
<td>2*</td>
<td>1*</td>
<td>1</td>
</tr>
<tr>
<td>LNG-IUD</td>
<td>1 or 2</td>
<td>1 or 2</td>
<td>1 or 2</td>
<td>1 or 2</td>
</tr>
<tr>
<td>Cu-IUD</td>
<td>1 or 2</td>
<td>1 or 2</td>
<td>1 or 2</td>
<td>1 or 2</td>
</tr>
</tbody>
</table>

* Consult full MEC Guidelines  § Cat 2 for women w/o VTE risk factors   Cat 1 if not breastfeeding
## CHOICE Project

<table>
<thead>
<tr>
<th>Method</th>
<th>% Choosing Method</th>
<th>% Continuing Method at 12 Months</th>
<th>% Satisfaction at 12 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly Effective Reversible</td>
<td>75%</td>
<td>83-88%</td>
<td>78-86%</td>
</tr>
<tr>
<td>Non-Highly Effective Reversible</td>
<td>25%</td>
<td>49-57%</td>
<td>42-54%</td>
</tr>
</tbody>
</table>

[http://choiceproject.wustl.edu](http://choiceproject.wustl.edu)
But Breastfeeding!

Rule of 1st digit:
- Avoid estrogens in first 6 weeks
  - May affect duration of breastfeeding
  - All else generally safe & not inhibitive

- LAM: good for 6 months if done perfectly
  - Bellagio Consensus 1988: flawed
  - Cochrane Review 2003: flawed

- Need more research…
The Evidence: Progestins and Lactation

4 RCT’s initiated progestin within 6 weeks

- LNG IUD vs Copper IUD
  - Lower rate in LNG groups at 75 days (56% vs 79%)
  - No differences at 6 months

- Implant within 24-48 hrs vs DMPA at 6 weeks
  - No difference in maintenance at 12 weeks

The Evidence: Progestins and Lactation

Observational Studies

- Cohort of 319: DMPA vs implant/pills vs non-hormonal
  - At 6 weeks: all groups had similar patterns

- 1974 study of progestin-only methods
  - DMPA within 2 days → 6.7 months mean duration
  - DMPA vs LNG IUD at 30 days → no difference in duration

- LNG pills started at 1 week: improved lactation

Chen BA, Reeves MF, Creinin MD, Schwarz EB. Postplacental or delayed levonorgestrel intrauterine device insertion and breast-feeding duration. Contraception. Nov 2011;84(5):499-504
Lactogenesis and Early Postpartum Implant

Take-home Points

Congratulations! Birth control?

Vaginal or c-section?
Breast or Bottle?
Birth Control?

Congratulations! Birth control?
Take-home Points

Etonogestrel Implant

Levonorgestrel IUD

Medroxyprog Injectable

Lactation-safe
Take-home Points

Sex + Ovulation

___________

Pregnancy

Don’t make new moms wait! They’re quite busy!
Questions?
References


PP Women: a special population

- Motivated
- Available
- At risk for unplanned pregnancy in 1st year: 10-44%

World Health Organization:
- 24 months for interval pregnancy length

Report of a WHO Technical Consultation on Birth Spacing. 2005
Utah Data: Dr. Clark and Neonatal Follow-Up Program

- Very high risk
  - <1250g, <26 weeks gestation, ECMO, HIE
- Sexually active, not using contraception, not desiring pregnancy:

20%

Barriers to Overcome

- No insurance
- No provider
- No postpartum visit
These are not small numbers that can be overlooked.

We can and we must DO BETTER
Postpartum Physiology

- Elevated progesterone in pregnancy elevates prolactin but blocks its activity
- Estradiol and progesterone levels drop dramatically 30-40 hours after delivery
- GnRH pulsatility stimulates pituitary within 2-4 weeks if not suppressed

Lactation Physiology

- Rising estrogen suppresses dopamine & promotes biosynthesis of prolactin
- High levels of progesterone inhibit prolactin at alveolar receptors
- Progesterone and estrogen rapidly decline, prolactin levels slower to decline
- Milk production 3-4 days postpartum
- Suckling stimulates areolar nerves, signal to pituitary

Contraception Options

- Progestin-only overall safe for everyone immediately*

- Estrogen-containing methods:
  - “Rule of 3’s”

- Lactational Amenorrhea Method (LAM):
  - Consistent use necessary
  - Protection declines after 6 months

- Sterilization: male vs female

* Ongoing discussion throughout prenatal care
# Tier 1 Methods

<table>
<thead>
<tr>
<th>Method</th>
<th>% Unintended Pregnancy in 1&lt;sup&gt;st&lt;/sup&gt; Year of Use</th>
<th>% Continuing Use</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Typical use</td>
<td>Perfect use</td>
</tr>
<tr>
<td>IUD</td>
<td>0.8</td>
<td>0.6</td>
</tr>
<tr>
<td>Copper (Cu)</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Levonorgestrel (LNG)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implant</td>
<td>0.05</td>
<td>0.05</td>
</tr>
<tr>
<td>Female Sterilization</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>Male Sterilization</td>
<td>0.15</td>
<td>0.1</td>
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</tbody>
</table>
Tier 1: Female Sterilization

• CRST Study:
  • Multicenter, prospective cohort study
  • 10,685 women who underwent sterilization
  • 8-14 year follow-up

• Findings:
  • Postpartum partial salpingectomy superior
  • Younger age → higher failure rate

## Tier 1: Female Sterilization

<table>
<thead>
<tr>
<th>Procedure</th>
<th>5-year Cumulative Pregnancy Rate per 1,000</th>
<th>10-year Cumulative Pregnancy Rate per 1,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postpartum Partial Salpingectomy</td>
<td>6.3</td>
<td>7.5</td>
</tr>
<tr>
<td>Unipolar Bipolar</td>
<td>2.3</td>
<td>7.5</td>
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<tr>
<td></td>
<td>16.5</td>
<td>24.8</td>
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<tr>
<td>Essure¹</td>
<td>Very few</td>
<td>?</td>
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<tr>
<td>Filshie Clip²</td>
<td></td>
<td>[0-0.23%]</td>
</tr>
</tbody>
</table>

Regret

Systematic review 19 articles by Curtis et al

- Age ≤ 30:
  - Twice as likely to express regret
  - From 3.5-18 times as likely to request info about reversal
  - ~8 times as likely to undergo evaluation/reversal

Medical Eligibility Criteria

http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5904a1.htm

An invaluable resource for safety of contraception in medically complicated patients

Category 1: No restriction (method can be used)
Category 2: Benefits generally outweigh risks*
Category 3: Risks* generally outweigh benefits
Category 4: Unacceptable risk (method cannot be used)

*RRefers to theoretical or proven risks
Tier 1: Intrauterine Device (IUD)

Timing of placement

- Immediately Postpartum
  - within 10-15 minutes after delivery of placenta
- As early as 4 weeks postpartum

ACOG bulletin****Ref
Tier 1: (IUD)

<table>
<thead>
<tr>
<th></th>
<th>Immediately Postpartum</th>
<th>Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expulsion rate in 1st year</td>
<td>6-20%</td>
<td>1-4.5%</td>
</tr>
<tr>
<td>Infection</td>
<td>&lt;0.1%</td>
<td>&lt;0.1%</td>
</tr>
<tr>
<td>Perforation</td>
<td>1 in 3800 insertions</td>
<td>1 per 1000 insertions</td>
</tr>
</tbody>
</table>

Ogburn et al:

- 12% of women desired IUD postpartum
- Only 60% of those actually obtained an IUD
- Barriers: provider advice against IUD, missing postpartum visit (35%), repeat pregnancy


The Evidence: Progestins and Lactation

- Systematic review of 43 articles by Kapp et al
- RCT by Chen et al: post-placental vs delayed insertion of LNG IUD
- RCT by Gurtcheff et al: early postpartum implant
- RCT by Espey et al: progestin vs COC
Post-placental vs Delayed LNG IUD on Breastfeeding

Chen et al, Randomized-Control Trial 2011

- 96 women who had uncomplicated NSVD
  - 50 post-placental insertion vs 46 inserted at 6-8 weeks
- Primary outcome: continuation of breastfeeding at 6 months
- No statistical difference in initiation or sociodemographics
- Small n, limited power
Lactogenesis and Early Postpartum Implant

Gurtcheff et al, Randomized-Control Trial 2011

- 69 young, healthy women desiring the implant
  - 35 early insertion (1-3 days)
  - 34 standard insertion (4-8 weeks)

- Primary outcomes:
  - Time to lactogenesis stage II
  - Lactation failure

Progestin vs COC on Lactation

Espey et al, Randomized-Control Trial 2012

- 127 women who desired oral contraception
  - 64 combined pills
  - 63 progestin-only pills

- Primary outcome: Breastfeeding continuation at 8 weeks

- Designed to detect a 25% difference at 8 weeks
  - Need for larger RCT to demonstrate equivalency

Progestin vs COC on Lactation

Espey et al, Randomized-Control Trial 2012

Fig. 3. Breastfeeding outcomes at 8 weeks. Continued breastfeeding in combined pills (n=64) compared with progestin-only pill (n=63) groups. Percentage still breastfeeding for a group is the percentage still breastfeeding of the number originally randomized to the group. Percentage supplementing or with milk concerns for a group is the percentage supplementing or with milk concerns of those who still are breastfeeding within the group.

Tier 2: Lactational Amenorrhea Method (LAM)

- 98% effective in preventing unplanned pregnancy if:
  - Used consistently and correctly
  - Exclusive infant suckling is used
  - No evidence of postpartum menses return (no bleeding >56 days)
  - Using up to 6 months

- CDC data of breastfeeding women in 2009:
  - Initiation: 76.9%
  - Continuation at 6 months: 47.2%
Tier 2: Combined Hormonal Methods

- % women experiencing unintended pregnancy in 1st year:
  - Typical use- 9.0%
  - Perfect use- 0.3%

- Historic studies demonstrate deleterious effect on lactation
  - Larger estrogen dose
  - Oral formulation only
Tier 2: Combined Hormonal Methods

- Cochrane Review in 2003:
  
  “Evidence from randomized controlled trials on the effect of hormonal contraceptives during lactation is limited and of poor quality; results should be interpreted with caution.”

- Kapp, et al Systematic Review in 2010:

  Limited evidence demonstrates an inconsistent effect on breastfeeding duration and success.

Truitt ST, Fraser AB, Grimes DA, Gallo MF, Schulz KF. Combined hormonal versus nonhormonal versus progestin-only contraception in lactation. Cochrane Database Syst Rev. 2003(2):CD003988