Optimizing Pregnancy Outcomes through Preconception Consultation and Appropriate Contraceptive Counseling

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Learning Objectives

- Appreciate the medical comorbidities where maternal health outcomes can be optimized to decrease pregnancy risks
- Highlight the power of preconception counseling and review motivational counseling techniques
- Understand the significance of avoiding short inter-pregnancy-intervals
- Identify the many contraceptive options for women with medical comorbidities
- Be familiar with the tools available for deciding which method for which women
- Know when to initiate methods in the postpartum period
- Recognize the importance of high quality family planning care

Pregnancy Planning in the U.S.

~50% of U.S. Pregnancies are unintended
Pregnancy Planning

- The U.S. ranks 26th in infant mortality
- Only developed country where maternal mortality and morbidity are on the rise
- To change this, it is imperative to improve the health status of women BEFORE they achieve pregnancy
- The National Preconception Health and Health Initiative has developed 9 key measures for improving preconception wellness

Factors Influencing Preconception Wellness

Goal: Achieve a high level of preconception wellness before entering pregnancy

Preconception Optimization

- Who, what, where?
  - Family physicians, obstetricians, maternal Fetal Medicine Specialists
  - This should be an ongoing assessment and conversation each during year of a woman’s fertility
  - Annual exam or problem visit
  - Referral to MFM (more on this to come)
Preconception Care

“It’s not a question of whether you provide preconception care, rather it’s a question of what kind of preconception care you’re providing.”
- Stanford and Hobbins

Preconception Care-National Preconception Health and Health Care Initiative Measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
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<tbody>
<tr>
<td>Pregnancy Intention</td>
<td>Reduction in unintended pregnancies, improvement in optimal birth spacing</td>
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<tr>
<td>Access to Care</td>
<td>Registered for prenatal care in the first trimester</td>
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<td>Preconception Folic Acid Use</td>
<td>Use of a daily multivitamin with folic acid for at least 3 months before conception</td>
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<td>Tobacco Avoidance</td>
<td>Prepregnancy smoking cessation</td>
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<tr>
<td>Absence of uncontrolled</td>
<td>Evidence-based depression screening method and treatment</td>
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<tr>
<td>depression</td>
<td></td>
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<tr>
<td>Healthy Weight</td>
<td>Healthy prepregnancy BMI with preconception nutritional counseling</td>
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<tr>
<td>Absence of an STI</td>
<td>No STI at conception</td>
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<td>Optimal Glycemic Control</td>
<td>Optimal A1C in pregestational Diabetics</td>
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<td>Teratogen Avoidance in Chronic</td>
<td>Avoidance of teratogenic medications for women at risk of pregnancy</td>
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<tr>
<td>Conditions</td>
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Preconception Care- The Oregon Way

One Key Question: Would you like to become pregnant in the next year?

https://www.youtube.com/watch?v=jQJ9uV3pByM
Preconception Care - The Oregon Way

- It is needed: Nearly every woman needs contraception or pregnancy preparedness services, and yet there is currently no recognition of these preventive reproductive health services as a standard in primary care.
- It benefits society: Preventive reproductive health is essential to women's ability to sustain good health.
- It benefits the family: Access to contraception and pregnancy preparation helps women to plan optimal timing for having children.

- It is Prevention:
  - Pregnancies should be wanted, planned, and as healthy as possible.
  - Contraception is a core preventive service for women.
  - Prenatal care, while important, is not sufficient to healthy pregnancies; most problems that affect the health of a pregnancy need to be addressed before a woman is pregnant through good preconception care.

- It makes Economic Sense:
  - Unintended pregnancy can increase financial stressors for families.
  - The adverse consequences of unintended pregnancies affect not only the children and families of these pregnancies, but also society as a whole through the increasing costs of health, education and social services.
  - Unintended pregnancies often derail women from their life plans, including work options and educational opportunities.
  - Prevention of unintended pregnancies has the potential to decrease the disparities in health among women and children of different socio-economic statuses.
Preconception Care- The Oregon Way

- **Resources**
  - Before, Between and Beyond Pregnancy is a resource for clinicians who want to learn more about preconception health with short, engaging modules filled with practical information - newly formatted.
  - United States Medical Eligibility Criteria for Contraceptive Use, 2010 (US MEC): intended to assist health care providers when counseling women, men, and couples about contraceptive method choice. The US MEC provides guidance on the safety of contraceptive method use for women with specific characteristics and medical conditions.
  - Reproductive Health Access Project: birth control fact sheets
  - Birth Control Education Kit: birth control kit
  - Preconception health education materials: CDC Show Your Love campaign

www.preconception.org

Preconception Care: How to Implement

- Use the available resources
- Know when to counsel yourself and know when to refer out
- Refresh your motivational interviewing techniques

Recommendations on the Clinical Content of Preconception Care (AJOG, 2008)

- Substance use
- Chronic disease profile
- Medication use and needs
- Reproductive history
- Family/genetic history
Model of a Reproductive Life Plan

- Do you hope to have any (more) children?
- How many children do you hope to have?
- How long do you plan to wait until you (next) become pregnant?
- What family planning method do you intend to use until you are ready to become pregnant?
- How sure are you that you will be able to use this method without any problems?
- What can I do today to help you achieve your plan?

From: CDC Reproductive Life Plan at http://www.cdc.gov/preconception/reproductiveplan.html

Preconception-When to refer

- Patients benefiting from a preconception visit to a Maternal Fetal Medicine Specialist:
  - Advanced maternal age (particularly those ≥ 35)
  - Obesity (particularly those with a BMI ≥ 40)
  - Chronic Hypertension
  - Pregestational Diabetes
  - Personal or significant family history of hematological disorder
  - Significant maternal cardiac condition

- Renal insufficiency
- Autoimmune diseases
- Substance abuse disorder
- Other medical complications
- Recurrent pregnancy loss (defined by 3 or more 1st trimester losses)
- Midtrimester pregnancy loss or IUFD
- Other poor obstetric outcome
Diagnosis Resources

Chronic Hypertension  

Obesity  
http://www.acog.org/Resources-And-Publications/Practice-Bulletins/Committee-on-Practice-Bulletins-Obstetrics/Obesity-in-Pregnancy

Pregestational Diabetes  
http://www.acog.org/Resources-And-Publications/Practice-Bulletins/Committee-on-Practice-Bulletins-Obstetrics/Pregestational-Diabetes-Mellitus

Antiphospholipid Syndrome  
http://www.acog.org/Resources-And-Publications/Practice-Bulletins/Committee-on-Practice-Bulletins-Obstetrics/Antiphospholipid-Syndrome

Medical Comorbidities with Significant Complication Risk

Motivational Interviewing

ACOG CO 431

Definition
- A directive, client-centered counseling style for eliciting behavior change by helping clients explore and resolve ambivalence

Approach
F - Feedback—Compare the patient's risk behavior with non-risk behavior patterns. She may not be aware that what she considers normal is risky.
R - Responsibility—Stress that it is her responsibility to make the change.
A - Advice—Give direct advice (not insistence) to change the behavior.
M - Menu—Identify “risk situations” and offer options for coping.
E - Empathy—Use a style of interaction that is understanding and involved.
S - Self-efficacy—Elicit and reinforce self-motivating statements such as “I am confident that I can stop drinking.” Help the patient to develop strategies, implement them, and commit to change.

Short Inter-Pregnancy-Interval

- One in three women ages 15-44 become pregnant within 18 months of previous birth.
- Inter-pregnancy-intervals of less than six months are associated with:
  - Small for gestational age, low birth weight, preterm delivery infants
  - Maternal morbidity and mortality
  - Inter-pregnancy-intervals of less than 12 months are associated with:
  - Infant death, stillbirth, early neonatal death
  - Poor economic and social outcomes for family and existing children
  - Most difficult for adolescent mothers
  - One in five adolescent births are second order or higher
  - Approximately 50% of repeat births occur after a short IPI
  - Approximately 2/3 of these are unintended
Contraceptive Options

- Abstinence
- Fertility awareness methods (rhythm method)
- Barrier methods
- Hormonal methods
- Intrauterine devices (IUDs)
- Sterilization (male/female)
Nexplanon
- Single 40-mm x 2-mm rod
- Contains 68 mg of etonogestrel, releases 60 mcg progestin/day
- Absolute contraindications
  - Current breast cancer
  - Ischemic heart disease
  - Stroke/CVA
  - Unexplained vaginal bleeding suspicious for serious condition
  - History of breast cancer
  - Severe liver cirrhosis

IUDs
- Intrauterine device: hormonal vs non-hormonal
  - Non-hormonal
    - Paragard
  - Hormonal
    - Nexplanon, Kyleena, Liletta
    - Contains varying doses of levonorgestrel
- Category 4 contraindications
  - Unexplained vaginal bleeding suspicious for serious condition
  - Cervical cancer
  - Current PID or cervicitis
  - Pelvic tuberculosis
- Category 3 contraindications
  - Severe liver cirrhosis (levonorgestrel only)

Depo-Provera
- 150 mg of depot medroxyprogesterone acetate IM q 3 months
- Category 4 contraindications
  - Current breast cancer
- Category 3 contraindications
  - Stroke / Hx of CVA
  - Multiple risk factors for arterial CV disease
  - Severe HTN (≥160/≥100) and/or vascular disease
  - Ischemic heart disease
  - Unexplained vaginal bleeding suspicious for serious condition
  - History of breast cancer
  - DM with vascular disease and/or > 20 years disease
  - Severe liver cirrhosis
Combined Hormone Contraception

- All contain a progestin (this varies by pill) and ethinyl estradiol
- Absolute Contraindications
  - Thromboembolic disorders
  - Smokers over age 35
  - Markedly impaired liver function
  - Current breast cancer
  - Undiagnosed abnormal vaginal bleeding
  - Severe high cholesterol or triglycerides
  - High blood pressure/DM with vascular disease
  - Migraines with aura
  - Lupus with antiphospholipid antibodies

Which method which woman?

ACOG recommendations for high risk women

- Safe, if Healthy & Non-Smoker
- No increased risk of myocardial infarction/stroke
- Only applies to oral contraceptives w/ >50mcg of estrogen.
- MEC Category 1 for all methods

- How about 40 years or greater?
- Still safe, but MEC Category 2 for combined hormonals

Age-related

- Is the use of hormonal contraception safe for women who are 35 years old?

- Age-related
  - Still safe, but MEC Category 2 for combined hormonals
Age-related and Cardiovascular

➢ Is the use of hormonal contraceptives safe for women who smoke and are less than 35?  
   No evidence of risk among young women; few studies of users > 35 years old.  
   MEC 2 for CHCs, MEC 3 if >35 years old.

➢ T/F: The risk of morbidity CV disease remains the same no matter how many cigarettes smoked/day  
   2 15/day: MEC 4

Cardiovascular Risks

➢ T/F: Even modern formulations of CHCs will increase a woman’s blood pressure.  
   True!  
   - Women using CHC w/ progestin & 30mcg of ethinyl estradiol  
   - Ambulatory SBP up by 8mm Hg, diastolic by 6mm Hg  
   - Effect not seen w/ POPs & DMPA

➢ If a woman is hypertensive and BP is controlled with meds, is she a better candidate for CHCs?  
   No.  
   - MEC 3 for CHCs regardless of control  
   - MEC 4: for systolic > 160mmHg and diastolic > 100mmHg

Hypertlipidemia

➢ What is the effect of hormonal contraception on lipids profiles?  
   - Estrogen decreases LDL, increases HDL levels.  
   - Progesterin increases LDL, decreases HDL levels.

➢ Safety in women w/ dyslipidemia?  
   - Yes, MEC 2. Lipids are only surrogate markers for CV disease.
**Diabetes**

- Will CHCs affect development of T2DM among pts with hx of gestational diabetes?
  - No; MEC 1 for CHCs

- Will CHCs affect control of T2DM?
  - 1 study of COCs and DMPA showed small effect on FCBG, but no effect on A1C's and development of retinopathy/nephropathy. MEC 2.

**Venous Thromboembolism**

- VTE Risk: Pt reports a history of superficial varicose veins; OK for CHC's?
  - Yes (MEC 1)

- VTE Risk: Family hx (1st) of VTE’s/PE’s; OK for CHC’s?
  - Yes (MEC 2)

- Acute DVT/PE?
  - MEC 4

- Personal hx of DVT/PE (estrogen-related), APS, known thrombophilia, hypercoaguable states?
  - MEC 4

- VTE Risk: obesity?
  - >30kg/m2 BMI = MEC 2 because of higher likelihood of VTE

**Autoimmune Disorders**

- T/F? Almost one quarter of women with lupus who conceive choose to terminate their pregnancies.
  - True
  - Pts with APA have high risk for arterial and VTEs – MEC 4

- What about other conditions requiring long-term steroid use ie. RA?
  - DMPA is MEC 1 in patients on steroids with risks or history of non-traumatic stress fractures.
Migraines

- Re: MIGRAINES: What symptoms are NOT aura?
  - Nausea, vomiting, photophobia, phonophobia, blurring, spots, flashing lights before a migraine

- What symptoms are CHARACTERISTIC of aura?
  - Flickering/colored lines progressing to the periphery, spreading scotomata, loss of visual field, typically before the headache

Breast Cancer

- (T/F) CHC use is contraindicated in patients w/ BRCA mutations.
  - True - There is an increased risk of breast cancer among these patients compared to those never using CHCS.
  - Favorable rating given reduction in ovarian cancer risk in these patients.

- (T/F) CHC use is contraindicated in patients w/ breast mass or family history of breast cancer.
  - False - This has not been shown to be true.
  - Benign breast disease – MEC 1
  - Undiagnosed mass – MEC 2
  - Family history – MEC 1
  - Current breast cancer – MEC 5
  - Past breast cancer NED 5 years – MEC 3

Medications

- Anti-epileptics: What are some safe ones that won’t affect metabolism of a COC?
  - Gabapentin, Lamotrigine, Levetiracetam (Keppra), Valproic Acid

- Anti-epileptics: Which ones decrease steroid levels?
  - Barbiturates, Carbamazepine, Phenytoin, Topiramate
  - MEC 3

- Anti-infecutive Agents: The only antibiotic known to induce hepatic enzymes and affect steroid levels.
  - Rifampin (Tuberculosis) – MEC 3

- Other medications that might affect effectiveness? What symptoms might they get?
  - St. John’s Wort (inducer); breakthrough bleeding
HIV

- NRTIs MEC1
- NNRTIs MEC2
- Protease-1 MEC3

Note: For some AIDs patients, IUDs can be MEC2/MEC3! Why?

Other

- Valvular heart disease?
  - Unlike for ischemic heart disease or stroke patients, CHCs is generally safe in cases of uncomplicated valvular heart disease.

- Depressive disorders?
  - MEC1

Other Situations

- PREGNANT w/ AN IUD: Leave in or take out?
  - FDA and WHO recommend that IUDs be removed from pregnant women when possible without an invasive procedure.

- Complications of continuing pregnancy?
  - Risk of spontaneous abortion, infection, rupture of membranes, preterm delivery.
Postpartum initiation
She is medically eligible now what about...

Combined Hormonal Contraception
- Concern number one: DVTs
  - Increased risk up until three weeks postpartum
  - MEC 4
  - If other DVT risk factors wait until 4-6 weeks
  - MEC 3
- Concern number two: Breast feeding
  - Do not initiate until four weeks postpartum
  - MEC 3

Progestin only Pills
- Can be started at anytime including immediately postpartum
- Postpartum initiation without a back up method
  - If less than 6 months
  - Exclusively breast feeding
  - Amenorrheic
IUDs

- Can consider immediate postpartum placement
- Must be placed within 10 minutes of delivery
- Contraindications: chorioamnionitis, endometritis, sepsis
- Paraguard is the only MEC 1 in breastfeeding moms
- Otherwise can place at 6wk visit

Questions?

Lactogenesis After Early Postpartum Use of the Contraceptive Implant

A Randomized Controlled Trial

Fig. 3. Time to lactogenesis stage II graphically represented as a Kaplan-Meier survival curve.
Postplacental IUD insertion

- RCT of postplacental versus interval IUD
- Postplacental
  - 98% insertion rate (50/51)
  - 24% expulsion rate (12/50)
- Interval
  - 90.2% insertion 46/51
  - 4.4% expulsion rate (2/46)
- 6-month IUD use, 84% postplacental and 76% interval p=.12