Pre-conception Care for Primary Care Providers

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Definition

- **Biomedical & behavioral interventions that identify and address reversible risks to a woman's health that must be acted on before conception to maximize the impact on birth outcomes improvement.**

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Objectives

- **Review the rationale for pre-conception care**
- **Correlate women's health with pregnancy outcomes**
- **Promote every encounter with a woman of childbearing age as an opportunity for health promotion and disease prevention.**
- **Provide examples of medical conditions and their potential impact on pregnancy outcome**

Goal of Pre-Conception Care

- **To promote the health of women of reproductive age before conception so as to:**
  - ✓ **Improve pregnancy-related outcomes**
  - ✓ **Reduce morbidity and mortality in women**

What is pre-conception care?

- **Comprehensive well woman care is preconception care for women who may become pregnant. Some women may need more than routine well woman care but no woman needs less.**

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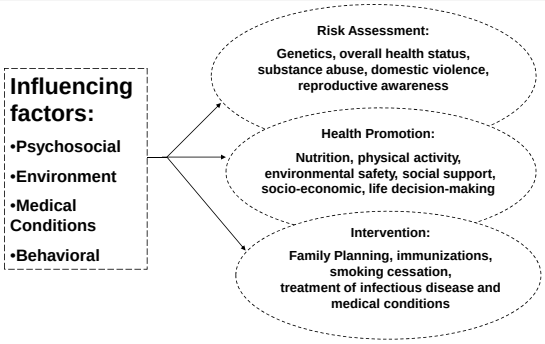
Preconception Care



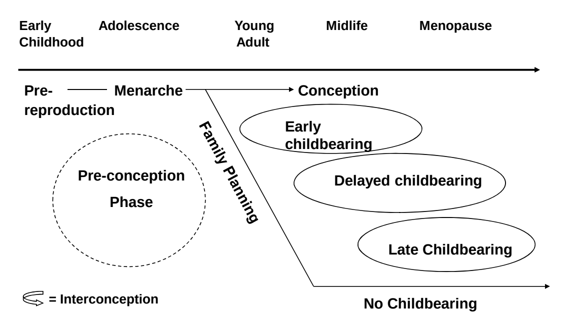
Who needs pre-conception care?

- **Women who are intending to become pregnant in the near future**
- **Women who have a chronic medical condition**
- **Women with a prior pregnancy affected by:**
  - ✓ **Preterm or LBW birth**
  - ✓ **Fetal or infant death**
  - ✓ **Congenital anomalies**
- **All women with reproductive capacity**

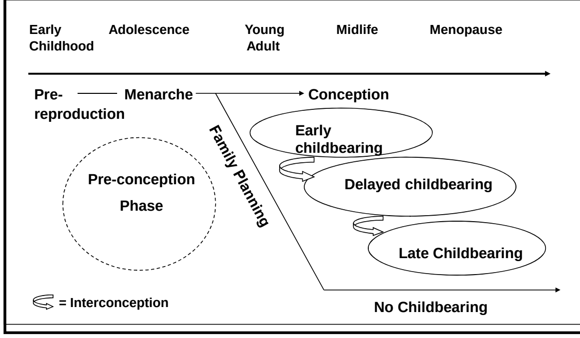
Interventions That Work

- **Primary prevention**
  - ✓ **Folic acid**
  - ✓ **Immunizations**
- **Avoid teratogens**
  - ✓ **Alcohol**
  - ✓ **Anti-epileptic medications**
  - ✓ **Oral anticoagulants**
- **Manage maternal medical conditions**
  - ✓ **Diabetes mellitus**
  - ✓ **Phenylketonuria**

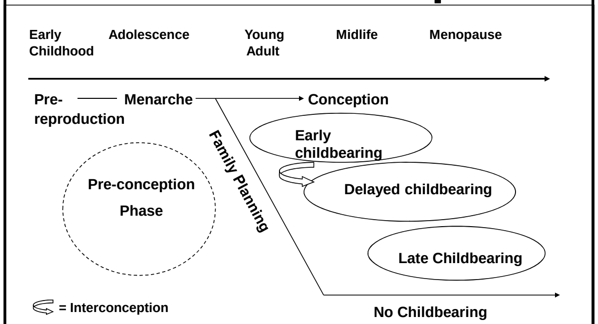
Reproductive Health Care Across the Lifespan



Reproductive Health Care Across the Lifespan



Reproductive Health Care Across the Lifespan



Opportunities to Incorporate "Every Woman, Every Time"

- Well woman visits
- Annual exams
- Family planning encounters
- Chronic disease visits
- Postpartum exams

Example 1

- 29 year old AA female G3P2012
  - ✓ Hx A2 GDM
  - ✓ BMI—29
  - ✓ OB Hx
    - Term, 4300 gram BW, A1 GDM→C/S
    - Sab
    - Term, 4600 grams BW, A2 GDM→C/S

Recurrence Risk

- 33-67% of women with GDM in one pregnancy will have GDM in a subsequent pregnancy
  - ✓ Older maternal age
  - ✓ Increased parity
  - ✓ Greater inter-pregnancy weight gain
  - ✓ Higher infant birth weight in index pregnancy
  - ✓ Higher maternal pre-pregnancy weight

Gestational Diabetes

- Definition: Glucose intolerance that first occurs or is identified during pregnancy
- Prevalence in United States: 1-14%
- 33% will have abnormal post-partum screening
- 50% will develop diabetes in the future
- Risks for offspring
  - ✓ Macrosomia
  - ✓ Shoulder dystocia
  - ✓ Birth trauma
  - ✓ Hyperbilirubinemia

Long-Term Consequences

- Type 2 Diabetes
- Impaired glucose tolerance/Impaired fasting glucose
  - Intermediate stage between normal glucose homeostasis and diabetes
  - Many individuals are euglycemic in daily life and have normal glycohemoglobin levels
  - All women with this diagnosis should be tested early in pregnancy for the diagnosis of gestational diabetes

Post-partum screening

- **Timing: 6-12 weeks post-partum**
- **Type of screening**
  - ✓ **Fasting plasma glucose test**
    - **Easier to perform**
    - **Lacks sensitivity for detection of other abnormal glucose metabolism**
  - ✓ **75 gram, 2 hour glucose tolerance test**
  - ✓ **If normal post-partum test, repeat q 3 years**

Interventions

- **Post-partum lifestyle modifications**
  - ✓**Healthy diet**
  - ✓**Exercise**
  - ✓**Weight loss**
  - ✓**Breastfeeding**

Diagnostic Criteria: Abnormal Glucose Metabolism

Test	Diabetes	Impaired Fasting Glucose	Impaired Glucose Tolerance
Fasting Plasma Glucose	Greater or equal to 126	Fasting value is 100-125	NA
75 g, 2 hr oral GTT	Fasting is greater or equal to 126 OR 2 hr plasma glucose greater or equal to 200	Fasting value is 100-125	2-hr glucose is 140-199

Example 2

- **36 year old white female G2P0202**
  - ✓ **Chronic hypertension (diuretic) X 8 years**
  - ✓ **Hx Pre-eclampsia—both pregnancies**
  - ✓ **BMI—33**
  - ✓ **OB Hx**
    - **35 weeks, pre-eclampsia, failed induction of labor→c/s**
    - **31 weeks, pre-eclampsia, repeat c/s**

Hypertension

- Definition: Systolic blood pressure ≥ 140 mmHg and/or diastolic blood pressure ≥ 90 mmHg
- Risks for adverse pregnancy outcomes
  - ✓ Mild pre-existing hypertension
    - Super-imposed pre-eclampsia: 10-25%
    - Abruptio placentae: 0.7-1.5%
    - Preterm birth (< 37 weeks): 12-34%
    - Fetal growth restriction: 8-16%

Pre-pregnancy Evaluation

- Blood pressure control
- Medication change if needed
- EKG
- Echocardiogram
- Renal evaluation
  - ✓ 24 hour urine for creatinine clearance and protein
- Baseline pre-eclampsia studies

Hypertension

- Risks for adverse pregnancy outcomes
  - ✓ Severe pre-existing hypertension (1st trimester)
    - Super-imposed pre-eclampsia: 50%
    - Abruptio placentae: 5-10%
    - Preterm birth (< 37 weeks): 62-70%
    - Fetal growth restriction: 31-40%

Anti-hypertensive therapy

- Contra-indicated: ACE inhibitors & angiotensin receptor antagonists
- Diuretic
- Calcium channel blockers
- Beta-blockers
  - ✓Atenolol
- Labetolol
- Methyldopa

Post-partum Hypertension

- Pre-eclampsia related HTN
  - ✓ Most resolves in few weeks
  - ✓ Almost always gone in 12 weeks
  - ✓ Rarely may be seen up to six months post-partum

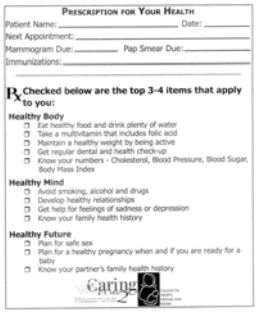
Reproductive Life Plan

- Do you plan 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?
- How much space do you plan to have between your future pregnancies?
- What do you plan to do to avoid pregnancy until you are ready to become pregnant?
- What can I do today to help you achieve your plan?

Barriers to Pre-Conception Care

- Provider Factors
  - ✓ Physician knowledge
  - ✓ Time
  - ✓ Lack of reimbursement
  - ✓ Inability to promote change in patient behaviors
- Patient Factors
  - ✓ High rate of unintended pregnancy
  - ✓ Limited access to health services overall
  - ✓ Ignorance of importance of good health habits
  - ✓ Difficulty in promoting behavior change

PCC Prescription



PRESCRIPTION FOR YOUR HEALTH

Patient Name: _____ Date: _____

Next Appointment: _____

Mammogram Due: _____ Pap Smear Due: _____

Immunizations: _____

℞ Checked below are the top 3-4 items that apply to you:

Healthy Body

- ☐ Eat healthy food and drink plenty of water
- ☐ Take a multivitamin that includes folic acid
- ☐ Maintain a healthy weight by being active
- ☐ Get regular dental and health check-up
- ☐ Know your numbers - Cholesterol, Blood Pressure, Blood Sugar, Body Mass Index

Healthy Mind

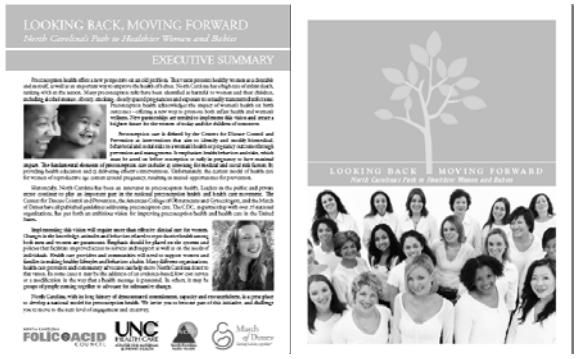
- ☐ Avoid smoking, alcohol and drugs
- ☐ Develop healthy relationships
- ☐ Get help for feelings of sadness or depression
- ☐ Know your family health history

Healthy Future

- ☐ Plan for safe sex
- ☐ Plan for a healthy pregnancy when and if you are ready for a baby
- ☐ Know your partner's family health history

Caring

www.mombaby.org



Routine Pregnancy Care for Primary Care Providers

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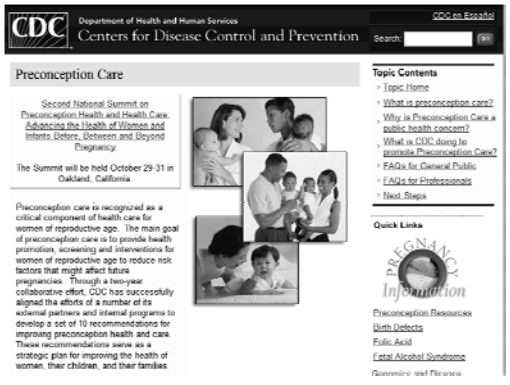


www.cdc.gov/ncbddd/preconception

Routine Prenatal Care Goals and Objectives

- **Early and accurate gestational age determination**
- **Ongoing evaluation of maternal and or fetal medical problems**
  - ✓ **Pre-conception counseling**
  - ✓ **Early intervention**
- **Patient education and communication**

Routine Prenatal Care
"Who do patients see and when?"

- Midwives: 9%
- Family Practioner: 6-7%
- Obstetrician: 85%
- 80% of women initiate care in the first trimester
- Close to 4% of women initiate PNC in the third trimester

First prenatal visit (OBP)

- Establish EDC
- Discuss medical problems
- Discuss previous pregnancies
- Assess for fetal anomalies
- Routine cytology and serology

Improving outcomes

- No conclusive evidence that PNC improves birth outcomes
  - ✓ Few trials
- Randomized trial in low socio-economic women DID show reduction in PTD and satisfaction
  - Ickovics,JR. Group Prenatal Care and Perinatal Outcomes. A randomized trial. OB & Gyn 2007;110:330

Establishing a Due Date

- Known LMP
  - ✓ Nagle's rule: LMP+7d-3months
- Unknown/Irregular menses
  - ✓ Sonogram
  - ✓ Most accurate early gestation (first trimester)

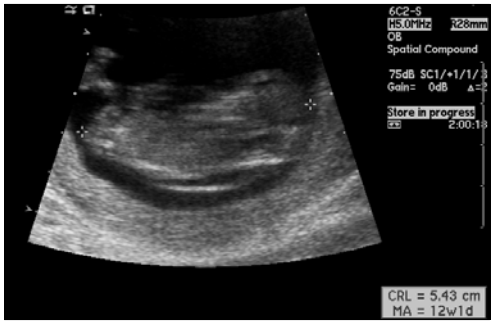
Nagle's Rule Example

- LMP: April 4, 2009
  - ✓ Add 7 days =April 11
  - ✓ Subtract 3 months = Jan 11
  - ✓ Estimated due date Jan 11, 2010

Ultrasound Dating

- Most accurate in the first trimester using CRL measurement
  - ✓ First trimester 3-5d
  - ✓ Second trimester 7-10d
  - ✓ Third trimester 14-21d

Ultrasound Dating



Medical Problems

- Assess chronic medical problems
  - ✓ Best done during pre-conceptual counseling
- Assess previous pregnancy outcomes
- Assess family history/genetic history

Physical Exam

- Blood pressure
- Weight and Height (BMI)
- Pap smear and cultures

Other Labs

- HIV
- TSH
- Hep C
- Varicella
- Heritable diseases
- Other viral illnesses (toxoplasmosis,parvovirus etc)

Routine Lab Tests

- Blood type and antibody screen
- H&H
- Rubella
- Syphilis
- Hepatitis B (antigen)
- Urine culture/sensitivity

Screening Tests

- Down Syndrome screening
  - ✓ First trimester
  - ✓ Second trimester
- Neural Tube defect screening
  - ✓ Second trimester

Nutrition and Weight Gain

- PNV with iron
  - ✓ Pre-pregnancy
- Nutritionist
- Weight gain goals
  - ✓ BMI assessed

Visits

- Monthly until 28weeks
- Biweekly through 36weeks
- Weekly through delivery

EACH VISIT:

- BP, WT, FH, FHT's, fetal movement assessed, urine dip

Weight Gain Recommendations

- Normal BMI 18.5-24
  - ✓ 25-35 lbs
- Overweight 25-29
  - ✓ 15-25 lbs
- Obese >30
  - ✓ 11-20 lbs
    - IOM (institute of medicine) May 2009 guidelines

Important findings at visits

- Elevated BP
- Protein in urine
- Signs of uti
- Fetal size assessment/position
- Glucose in urine

Important milestone visits

- **10-13wk: first trimester screen**
- **16-20wk: quad screen/anatomy scan**
- **24-28wk:glucola, rhogam**
  - ✓ **Consider repeat infectious disease testing**
  - ✓ **Consider repeat H&H**
- **36wk: gbbs culture and gc/chl**

Patient – care giver communication

- **Information on access to care giver**
- **Information on safe medication list**
- **Dietary precautions**
- **Information on breast feeding**
- **Exercise**
- **Travel**