Healthy Pregnancy

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Preconception Care

- Risk Assessment
  - Social
  - Behavioral
  - Environmental
  - biomedical
- Risk reduction
  - Congenital disorders/fetal growth abnormalities/pregnancy complications
- Goals
  - Educate
  - intervene

Preconception Evaluation

- Intervention prior to conception MORE important than PRENATAL intervention
  - 30% start PNC in the second trimester
  - Maximal organogenesis between 3-10 weeks
  - 50% of pregnancies in US are “unintended”
- Any women's health provider should be able to initiate preconception evaluation
  - Referral to pregnancy specialist
  - Referral to other “specialists” if appropriate
  - Coordination of care

Preconception Care

- Checklist (resources)
  - CDC
  - March of Dimes
  - Perinatal Foundation
  - ACOG
### Age

| • Maternal age |
| • Fertility |
| • Aneuploidy |
| • Miscarriage |
| • Pregnancy related complications |
| • Paternal Age |

### Medical history

| • Chronic diseases |
| • Medications |
| • Gynecologic history |
| • Substance abuse |
| • Vaccinations |
| • Nutrition/supplementation |
| • Environmental hazards |
| • Genetics/heritage |

### Resources

| • Potential teratogens |
| • National Library of Medicine |
| • Reprotox |
| • Pregnancy Exposure Registries |
| • Many others |

### Preconception labs

| • Consider STI screen |
| • Discuss genetic history/genetic carrier testing |
| • Immunity status and consideration to vaccination if appropriate to patient planning |

Medical conditions to consider additional preconception evaluation:
- Diabetes
- TB assessment

Social/Environmental considerations:
- Toxo, CMV, Lead levels
### Primary Interventions

- Folic Acid supplementation
  - Supplementation AFTER +UPT is too late for NTD
- NT closes 18-26d after conception
- Disease optimization
- Abstinence from drugs/etoh
- Smoking cessation
- Vaccinations
- Weight loss/gain
- MEDICATION changes/discontinuation
- Behavioral changes (based on risk factors)

### Disease Optimization

- Hypertension
  - Appropriate medications
- Diabetes
  - Glycemic control
- Thyroid disorders
- Asthma
- Seizure disorders
  - Appropriate medications, extra folic acid supplementation
- Cardiovascular disease
- Autoimmune disorders
- Thrombophilias
- Psychosocial evaluation

### Healthy Pregnancy: Prenatal Care

- Risk Assessment/rediscussion
- Estimate gestational age
- Patient education

### Initiation of Care

- Ideally preconception assessment
- Pregnancy evaluation and “dating” by 10 weeks
- Physical examination
- Routine laboratory testing
- Patient education
- Patient care PROVIDER
  - Decide early
    - Physician (ob or fp), CNM
# Due Date

- Calculated by LMP (last menstrual period)
  - Interval of menstrual cycle is 28d
  - Naegle’s rule
    - (LMP +7 days) -3 months
- Dating is crucial to interventions and fetal growth assessment
- Ultrasound dating assessment
  - Uncertain LMP
  - Conception with contraception
  - Irregular menses

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# Physical Assessment

- Baselines:
  - Blood pressure
  - Weight/height
  - Uterine size
  - Fetal cardiac activity

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# Routine Labs

- Blood type and antibody screening
- Hematocrit/MCV
- Pap (standard guidelines)
- Immunity to varicella, rubella/other viruses based on risk
- Urine assessment
- Syphilis
- Hepatitis B
- HIV
- STI testing
- INHERITED disorders (if appropriate)
- Consider: thyroid function, diabetes testing, other immunities/viral exposures

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# Useful tests

- Ultrasound examination
- Fetal aneuploidy screening
- Consideration to screening for inherited disorders
  - CF
  - Fragile X
  - SMA (spinal muscular atrophy), PKU
  - Hemoglobinopathies
    - B-thal, alpha-thal, heoglobin S, C, E
  - Eastern European heritage
    - Tay Sachs, other
      - Pennsylvania Dutch
      - Southern Louisiana Cajun
      - Eastern Quebec French Canadian
### Aneuploidy screening

- Down’s syndrome is the MOST common chromosomal abnormality among LIVE BORN infants
- Screening should be offered to ALL patient’s regardless of RISK
  - First trimester screen
  - NEWER: cffDNA
  - Second trimester screening

### Patient education

- Routine practice issues
- Nutrition/weight gain/PNV
- Exercise
- Safe medications
  - List/call
- Common pregnancy symptoms (normal)
- Signs/symptoms of pregnancy complications

### Sonography

- Establish EDD
- Evaluate for birth defects
  - Prevalence about 4% among ALL LIVE BIRTHS
- Evaluate for aneuploidy
- NOT PERFECT

### Nutrition/exercise

- Weight gain INDIVIDUAL
- Prenatal vitamin: folic acid, iron
  - Avoid excessive Vitamin A
- DHA supplements (?)
- Limit caffeine
- Avoid large fish
- Avoid hot tubs/sauna in the first trimester

- Exercise
  - Continue program
### Symptoms

- Common
  - Nausea and vomiting
  - Constipation, diarrhea
  - GERD
  - Problems sleeping
  - Varicose veins
- Urgent
  - Bleeding
  - Pain and or bleeding
  - Vomiting for over 24h

### Practice Issues

- Contact numbers
- Physicians
- Urgent issues/emergent issues
- Hospital coverage/delivery planning

### High Risk Pregnancy

- NO PRECISE DEFINITION
- Medical or surgical conditions
- Past obstetric complications
- Maternal age

- REFERRAL to perinatologist for recommendations

- Additional care
  - No specific studies to show improved outcomes

### Periodic Assessment

- Based on GA additional evaluation is recommended
  - PNB (first visit)
  - Aneuploidy screening
  - Diagnostic assessments
  - Neural tube defects (15-24w)
  - Fetal anomalies/aneuploidy assessment
    - ultrasound
  - ?cervical length
  - Gestational diabetes (24-28weeks)
  - Antibody evaluation (if appropriate)
  - Hematocrit assessment
  - Tdap vaccination (influenza if appropriate)
  - STI screening
  - Group B beta-hemolytic strep testing (35-37weeks)
### Periodic Assessment

- EFW (third trimester)
- Fetal position
  - ?mode of delivery
- Ultrasound in “high risk” pregnancies for fetal weight
- Basic physical assessment (fundal height) “low risk” pregnancies
  - Ultrasound if necessary
- Antenatal testing (high risk)

### Delivery

- Mode of Delivery
  - Vaginal delivery
  - C-Section
- Education
  - “birth plan”
  - support
- Breast feeding
- Pediatrician