PRENATAL CARE AND SCREENING

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Prenatal care in the US was introduced in 1901 by Mrs. William Lowell Putnam

- Began program of nurse visits to women enrolled in the home-delivery service of Boston Lying-in Hospital
- At that time it was concluded that 40% of perinatal deaths could have been prevented by prenatal care
“A comprehensive antepartum care program involves a coordinated approach to medical care and psychosocial support that optimally begins before conception and extends throughout the antepartum period.”

Includes:

- Preconception care
- Prompt diagnosis of pregnancy
- Initial prenatal evaluation
- Follow up prenatal visits
COMPONENTS OF PNC

Initiated by 10wga

Past medical history
- Specifically past obstetrical
- Menstrual

Family history
- Heritable disorders

Past surgical history

Immunization history

Travel history
- Malaria, TB, Zika

Psychosocial screening
- Barriers to care
- Childcare & family support
- Nutritional
- Tobacco/alcohol/substance abuse
- Depression
- Domestic violence

Initial prenatal visit and again in each trimester
CONFIRMATION OF EDD

Pregnancy w/o US assessment confirming or revising the EDD before 22 0/7 should be considered sub-optimally dated.
**COMPONENTS OF PNC**

**Immunizations**
- Influenza
- Tdap
- Hepatitis A, hepatitis B, pneumococcal (splenectomy/asplenia)
- Live virus vaccinations (MMR, varicella) contraindicated

**Prenatal vitamin/supplements**

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**TABLE 6-5. Institute of Medicine Weight Gain Recommendations for Pregnancy**

<table>
<thead>
<tr>
<th>Prepregnancy Weight Category</th>
<th>BMI* (kg/height (m))^2</th>
<th>Recommended Total Weight Gain Range (lb)</th>
<th>Recommended Rates of Weight Gain: Second and Third Trimesters (Mean Range, lb/wk)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underweight</td>
<td>Less than 18.5</td>
<td>28–40</td>
<td>1 (1–1.3)</td>
</tr>
<tr>
<td>Normal weight</td>
<td>18.5–24.9</td>
<td>25–35</td>
<td>1 (0.8–1)</td>
</tr>
<tr>
<td>Overweight</td>
<td>25.0–29.9</td>
<td>15–25</td>
<td>0.6 (0.5–0.7)</td>
</tr>
<tr>
<td>Obese (includes all classes)</td>
<td>30.0 or greater</td>
<td>11–20</td>
<td>0.5 (0.4–0.6)</td>
</tr>
</tbody>
</table>


^Calculations assume a 1.1–4.4 lb (0.5–2 kg) weight gain in the first trimester.

COMPONENTS OF PNC

Physical exam/pelvic exam
- Speculum & bimanual

Initial lab tests
- HIV
- CBC
- Blood type, Rh status
- Antibody screen
- Rubella status
- VRDL/RPR
- Varicella status
- Urine culture
- Cervical cancer screening
- Gonorrhea & chlamydia
- TB test in high risk women

24-28wga
- 50g glucola
- Antibody screen
- CBC
- VDRL/RPR
- Rhogam if needed

36wga
- GBS

Visit frequency
- 4wks until 28wga
- 2wks until 36wga
- 1wk until delivery
COMPONENTS OF PNC

Genetic screening
- Aneuploidy
  - CVS, amniocentesis, cell free DNA, maternal serum biomarkers
- Carrier screening
  - Fragile X, cystic fibrosis, spinal muscular atrophy, hemoglobinopathies

Neural tube defect screening
- MSAFP

Ultrasound

Ongoing assessments
- Blood pressure
- Weight
- Urine
- Fetal growth
- Fetal heart rate
- Fetal movement
- Presentation
- Significant events
- Potential problems
SMOKING/TOBACCO USE

Teratogenic effects (deletions & translocations)
- Gastroschisis

Placenta previa, placental abruption

Preterm premature rupture of membranes

Growth restriction

30% more likely to be premature

Stillbirth

3x more likely to die of SIDS

Reduction in preeclampsia
ALCOHOL/ILlicit DRUG USE

Alcohol use

- Potent teratogen
  - Fetal alcohol syndrome
    - growth restriction, fetal abnormalities, CNS dysfunction

Illicit Drug Use

- 10% of fetuses are exposed
- Fetal distress
- Low birth weight
- Neonatal abstinence syndrome
SUBSTANCE USE SCREENING

Risk factors

- Young, unmarried, lower education
- Late initiation of PNC, multiple missed prenatal visits
- Impaired school work/performance
- Sudden change in behavior, high risk sexual behavior
- Unstable home
- Past obstetrical history of unexplained adverse events
- Children in CPS
- Medical problems associated with poor dentition, poor weight gain, mental health, family history, law encounters, partner with substance abuse
SUBSTANCE USE SCREENING

Universal screening recommended

Use validated screening tool at initial visit & again each trimester

- 4P’s Plus
- CRAFFT Substance abuse screen for adolescents and young adults
- National Institute on Drug Abuse (NIDA) quick screen
SCREENING TOOLS

BOX 5-3. Clinical Screening Tools for Prenatal Substance Use and Abuse

4 Ps
Parents: Did any of your parents have a problem with alcohol or other drug use?
Partner: Does your partner have a problem with alcohol or drug use?
Past: In the past, have you had difficulties in your life because of alcohol or other drugs, including prescription medications?
Present: In the past month have you drunk any alcohol or used other drugs?
Scoring: Any “yes” should trigger further questions.

Modified from Ewing H. A practical guide to intervention in health and social services, with pregnant and postpartum addicts and alcoholics: theoretical framework, brief screening tool, key interview questions, and strategies for referral to recovery resources. Martinez (CA): The Born Free Project, Contra Costa County Department of Health Services; 1990.

BOX 5-4. CRAFFT—Substance Abuse Screen for Adolescents and Young Adults

C: Have you ever ridden in a CAR driven by someone (including yourself) who was high or had been using alcohol or drugs?
R: Do you ever use alcohol or drugs to RELAX, feel better about yourself, or fit in?
A: Do you ever use alcohol or drugs while you are by yourself, or ALONE?
F: Do you ever FORGET things you did while using alcohol or drugs?
F: Do your FAMILY or FRIENDS ever tell you that you should cut down on your drinking or drug use?
T: Have you ever gotten in TROUBLE while you were using alcohol or drugs?
Scoring: Two or more YES answers suggest a serious problem and need for further assessment.

Reproduced with permission from the Center for Adolescent Substance Abuse Research, Children’s Hospital Boston. The CRAFFT screening interview. Boston (MA): CeASAR; 2009. Available at: http://www.ceasar.org/CRAFFT/pdf/CRAFFT_English.pdf. Retrieved September 27, 2016. Copyright John R. Knight, MD, Boston Children’s Hospital, 2016. All rights reserved. For more information, contact ceasar@childrens.harvard.edu.
Exhibit 2-2. SBIRT Process

Screening

- No or Low Risk
  - No Further Intervention
- Moderate Risk
  - Brief Intervention
- Moderate to High Risk
  - Brief Treatment (onsite or via referral)
- Severe Risk, Dependence
  - Referral to Specialty Treatment
Universal testing not recommended

Clinical indications for testing

- Previous positive
- Monitor compliance
- Placental abruption
- Preterm labor
- IUGR
- Requests of prescription drugs
- Non-compliance with prenatal care
- Unexplained fetal demise

Consent should be obtained
URINE DRUG OF ABUSE

“Urine drug testing has been used to detect or confirm suspected substance use, but should be performed only with the patient’s consent and in compliance with state laws.” –ACOG

Potential for false positives
## State Policies on Substance Use During Pregnancy

<table>
<thead>
<tr>
<th>STATE</th>
<th>Substance Use During Pregnancy Considered:</th>
<th>When Drug Use Diagnosed or Suspected, State Requires:</th>
<th>Drug Treatment for Pregnant Women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Child Abuse</td>
<td>Grounds for Civil Commitment</td>
<td>Reporting</td>
</tr>
<tr>
<td>Alabama</td>
<td>X*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alaska</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Arizona</td>
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<td></td>
<td>X</td>
</tr>
<tr>
<td>Arkansas</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>California</td>
<td>X</td>
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<tr>
<td>Colorado</td>
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<td>Connecticut</td>
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<tr>
<td>Delaware</td>
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<tr>
<td>Georgia</td>
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<tr>
<td>Illinois</td>
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</tr>
<tr>
<td>Indiana</td>
<td>X†</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Iowa</td>
<td>X†</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Kansas</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substante abuse during pregnancy is a crime</th>
<th>State</th>
<th>Women have been prosecuted for drug use during pregnancy</th>
<th>Substance abuse during pregnancy is child abuse</th>
<th>Substance abuse during pregnancy is grounds for civil commitment</th>
<th>Health care workers must report drug abuse during pregnancy</th>
<th>Testing is required if drug use during pregnancy is suspected</th>
<th>What courts have said</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kansas</td>
<td>No</td>
<td>Yes</td>
<td>No specific law</td>
<td>No</td>
<td>No specific law</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

Any information included in a doctor’s referral of a pregnant woman for drug treatment cannot be used in a criminal prosecution. There are no other specific state laws that criminally prosecute women or protect them from prosecution if they use drugs during pregnancy and test positive after birth. A prosecutor can bring criminal charges against a woman whose infant tested positive under other laws in the state’s criminal code.

Hospital policy for maternal screening

Random testing is unethical

Medically indicated drug test w/o consent is acceptable in unconscious women or those who show obvious signs of intoxication & need to be tested in order to provide appropriate interventions

- Cocaine and beta-blockers

Considerations:

- All women complete a written drug screen
- Test with consent if:
  - +Written screen or h/o abuse
  - Prenatal care established after 20wga
  - Completed less than four prenatal visits
  - Severely elevated blood pressure
  - Methadone use
  - Obvious signs of intoxication
  - Unconscious/seizing
DEPRESSION SCREENING

Assess at least once during pregnancy or postpartum using validated screening tool
- Edinburgh postnatal depression scale
- Score 13 or more indicative of major depression
- Initial treatment with antidepressants
  - benefits outweigh the potential risks
- Psychotherapy is reasonable alternative

Risks
- Suicidal behavior
- Anorexia, poor weight gain/weight loss
- Cognitive impairment, anhedonia
- Poor self care
- Nonadherence with prenatal care
- Psychotic features, catatonia, comorbid substance disorders
RESOURCES

Unipolar major depression during pregnancy: epidemiology, clinical features, assessment, and diagnosis. (Uptodate)

Prenatal care: Second and third trimesters. (Uptodate)

Substance use by pregnant women. (Uptodate)

Prenatal care: initial assessment. (Uptodate)


Guidelines for perinatal care. 8th edition. (AAP, ACOG)

Recognition and management in pregnancy, postpartum and perioperative period. (ACOG)

