Ohio Department of Health (ODH)
Division of Family and Community Health Services (DFCHS)
Bureau of Child and Family Health Services (BCFHS)
Child and Family Health Services Program (CFHS)
Program Standards
2014

Perinatal Health Direct Care Standards

Foreword

Prenatal care did not exist until the end of the nineteenth century; it was pioneered in Great Britain. Previously, pregnancy care was confined to the time of delivery and was only for the wealthy. In 1929, the United Kingdom Ministry of Health on Antenatal Clinics proposed a schedule for the timing and frequency of prenatal visits. No rationale was given in the document except for the idea that prenatal care could prevent pre-eclampsia. This schedule of visits is still used by the majority of obstetric practitioners in the United States today for low risk patients (1). There is a concentration of visits in the late third trimester. The implications being that complications mainly occur late in pregnancy and that the prediction, prevention or treatment of poor outcomes cannot occur earlier. The benefits of obstetric care are both financial and medical (2). For every dollar spent for prenatal care, $3.38 is saved in costs for low birth weight infants. Prenatal care is also an opportunity to identify a population at risk for future chronic disease and help women modify risk factors.

Ohio has approximately 140,000 live births per year, which is the seventh highest in the United States. Unfortunately, neither maternal nor fetal outcomes are optimal. Infant mortality (IM) is a direct reflection of the care given to women and children. Ohio's rate of 7.9 per 10,000 live births is higher than that of 42 other states. There is also a significant racial disparity in Ohio, with the IM rate for African-Americans more than twice the rate for white infants. Prematurity is the number one cause of death. The Ohio Pregnancy Associated Mortality Review identified 87 women who died in 2008 and 2009 while pregnant or within a year of pregnancy. The pregnancy-related mortality ratio of 14.5 per 100,000 live births is higher than the national rate of 12.7. The presence of maternal obesity and chronic disease are major risk factors for these Ohio deaths. In addition, major contributing factors identified included failure to adequately screen women for risk during pregnancy and consult appropriately.

Today, in the twenty-first century, obstetric care providers take care of women who are less healthy than before and more likely to be older, obese, and already have chronic diseases such as diabetes and hypertension. Maternal and fetal risk screening is a key component of the obstetric services provided. Screening alone is not helpful; targeted referrals must be made.

Pregnancy care is increasingly a multi-disciplinary endeavor. These clinical standards are a first step in providing guidance for care. Bear in mind that the medical field is always changing due to emerging clinical and scientific advances; clinicians must alter practice as new guidelines are issued. Each program is encouraged to expand upon this document to meet the needs of the women that they serve.

Cynthia S. Shellhaas, MD, MPH

Medical Director, Ohio Department of Health, Bureau of Child and Family Health Services

References:

- Nicolaides K.H. (2011). Turning the pyramid of prenatal care. *Fetal Diagn Ther* 29:183-196.
- AMCHP. The Power of Prevention for Mothers and Children.

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PERINATAL HEALTH REQUIREMENTS AND QUALITY OF CARE

Perinatal Health (PN) addresses the health needs for women for the antepartum and postpartum periods. These services are directed to mothers who are underinsured and are from racial and ethnic groups that are disproportionately affected by poor health outcomes. The desired outcome – a healthy mother and a healthy baby – can be attained through direct health care services, enabling services, population-based services and infrastructure building services.

The goal is to provide the best care available to uninsured and underinsured families in Ohio, and care that is flexible and affordable. Early and continuous perinatal care is the first step toward assuring that both mother and infant will be healthy throughout the pregnancy and delivery. Collaboration with other agencies, such as WIC and Ohio Medicaid, is very important to the success of these services.

Because of the significant contribution that high quality perinatal care makes to the health and well-being of women and their children, perinatal care coordination is an important component of obstetrical care. Case management, high-risk assessment, and home visiting can be a part of a traditional perinatal clinic, or can be developed by a public agency as a "wrap-around" or enabling service available to public and private providers of care. Health education and modification of high risk behaviors have also become an important part of a prevention services.

Complete psychosocial and nutrition assessments must be done and a plan of action developed. Those plans should be carried out by the provider who completed the assessment to assure continuity of care. If an assessment is not completed by a licensed professional of that discipline and a problem is identified, the client must be referred to the appropriate licensed professional.

These standards are the required minimum standard for providing perinatal health care through the CFHS program. Each CFHS agency must develop its own specific protocols and update them to reflect current health care practice and professional standards from organizations such as the American College of Obstetricians and Gynecologists (ACOG). Clinical protocols change frequently as new data becomes available and consensus panels are convened. Therefore, the following provide general guidance and resources to develop more detailed protocols. As always, perinatal care must be individualized to the particular patient as guided by risk assessment and clinical condition.

A CFHS agency must provide assurances that they and all subcontractors and vendors will comply with the ODH CFHS standards and will utilize practice guidelines and recommendations developed by recognized professional organizations and other federal agencies in the provision of evidence-based health services.

All CFHS agencies must have an ongoing quality assurance plan designed to objectively and systematically monitor and evaluate the quality, appropriateness, and impact of care and services provided to the community, and to pursue opportunities for improvement.

Cultural differences are not solely racial and ethnic differences. Cultural competence is a set of behaviors, attitudes, and policies aimed at bridging linguistic and cultural gaps between patients/consumers and caregivers. When attempts are made to successfully bridge these gaps, improved health care outcomes are expected. Increased understanding on the part of the provider will allow for more specific and complete information to be obtained from the patient/consumer that will in turn lead to improved diagnoses and treatment plans. Patients/consumers who are able to successfully communicate with their caregiver will be more likely to comply with those treatment plans and experience fewer delays in seeking care.

CONFIDENTIALITY AND CLIENT RECORDS

The primary purposes of the client's medical record are to document the course of a client's health care and to provide a medium of communication among the health care providers for current and future care of the client. Any services provided by the CFHS agencies clinic(s) or its contractors must be recorded in the client's chart. *HIPAA Privacy Rule* must be maintained. For more information please visit:
http://www.hhs.gov/ocr/privacy/hipaa/understanding/summary/ .

PERINATAL HEALTH MEASURES – Strategies – Eligibility – Benchmarks

The *perinatal health measures* and *strategies*, along with their corresponding *eligibility criteria* and *benchmarks*, are found on the CFHS Components Grid in the current RFP. The Components Grid is used to populate the perinatal health *measures, strategies* and *benchmarks* on the CFHS Program Plan. In order to be funded for *perinatal health* the CFHS agency must clearly meet the *eligibility and justification* criteria for each proposed *perinatal* measure and strategy. Measures and strategies are set by the Ohio Department of Health-Bureau of Child and Family health Services (BCFHS) and can be found in the most recent Request for Proposal (RFP). Each p*erinatal measure* is based on maternal and child health priority needs as identified by the most recent ODH Maternal and Child Health Block Grant Needs Assessment. Each *perinatal strategy* reflects evidence-based and/or best practices identified by ODH through literature reviews and other research. A CFHS agency may address the perinatal health measures through infrastructure building, population-based, enabling and direct care strategies-services.
In order to be funded for *perinatal health* the CFHS agency must clearly meet the *eligibility and justification* criteria for each proposed *perinatal* measure and strategy. The *perinatal health*

measures and *strategies*, along with their corresponding *eligibility criteria* and *benchmarks*, are found in the most recent Request for Proposal.

Benchmarks have been developed for all CFHS *measures* and are used to measure progress toward achieving CFHS goals. A CFHS agency must use only those *measures* identified by ODH in the most recent Request for Proposal and their corresponding *benchmarks* for each *strategy*. *Benchmarks* cannot be altered. However, additional *benchmarks* for specific activities should be included in the program plan.

PERINATAL DIRECT CARE GUIDELINES – Protocols

GOALS OF PRENATAL CARE

Institution of early and regular prenatal care plays a role in decreasing maternal and perinatal morbidity and mortality. Documentation of care may be either in electronic, paper, or a hybrid format. Forms developed by The American College of Obstetricians and Gynecologists for both prenatal and post-partum care are examples of the type of information that should ideally be collected and documented. These are copyright-protected. See their website: www.acog.org.
The goals of prenatal care are: maternal risk screening, education, maternal reassurance, assessment of both maternal and fetal well-being, and treatment of medical and psycho-social complications.

FREQUENCY OF PRENATAL CARE – RECOMMENDATIONS

The frequency of follow-up visits is determined by the individual needs of the woman after an assessment of risk factors. Women with uncomplicated pregnancies are seen every four weeks until 28 weeks of gestation, every two weeks until 36 weeks of gestation, and then weekly. Women with either obstetric or medical complications in the pregnancy should be seen more frequently, on an individualized schedule. A post-partum visit should be included as a routine part of care. Pregnant women should also have access to unscheduled or emergency visits on a 24-hour basis.

ULTRASOUND

Ultrasound is used for many purposes in pregnancy to evaluate the fetus. These include estimation of the gestational age, screening for multiple gestation, congenital anomalies and fetal growth abnormalities. Ultrasound is also a useful adjunct to the assessment of fetal well-being (biophysical profile) and adjustment of aneuploidy risk.

To improve neonatal outcomes, non-medically indicated deliveries should not occur prior to 39 weeks of gestation. The use of ultrasound to confirm or establish the accuracy of the gestational age is key.

References:

- The American College of Obstetricians and Gynecologists' Practice Bulletin Number 101. February, 2009. Reaffirmed, 2011.
- The American College of Obstetricians and Gynecologists' Committee Opinion Number 561. Non-medically indicated Early-Term Deliveries. April, 2013.
- The American College of Obstetricians and Gynecologists' Committee Opinion Number 560. Medically Indicated Late-Preterm and Early-Term Deliveries. April, 2013.

SUGGESTED CONDITIONS FOR MATERNAL – FETAL MEDICINE CONSULTATION/CO-MANAGEMENT/ON-GOING CARE

1. Medical Complications of Pregnancy
    - Cardiac Disease
    - Chronic Hypertension
    - Pre-Eclampsia – current pregnancy or prior pregnancy history
    - Diabetes/Endocrine disorders
    - Renal or gastro-intestinal disease
    - Autoimmune disease
    - Infectious Diseases—HIV
    - Seizure Disorder
    - Thrombophilia and/or history of thrombo-embolism
2. Obstetric Complications of Pregnancy
    - Multiple gestation
    - Preterm labor, preterm premature rupture of membranes and premature delivery – current pregnancy or prior pregnancy history
    - Cervical insufficiency
    - Placenta previa or abruptio
    - Recurrent pregnancy loss
    - Intra-uterine fetal growth restriction
3. Prenatal Diagnosis
    - Advanced maternal age
    - Increased risk on first or second trimester biochemical marker screening
    - Genetic conditions, chromosomal aneuploidy, birth defects
4. Fetal Therapy
5. Note: In the absence of maternal-fetal medicine consultation or as a supplement, medical sub-specialty consultation may be required.

Reference:

- Society for Maternal-Fetal Medicine. State of High Risk Pregnancy Monograph, 2010.

SUGGESTED CONDITIONS FOR ANESTHESIOLOGY CONSULTATION PRIOR TO DELIVERY

1. Chronic medical conditions
2. Maternal cardiac disease
3. Maternal pulmonary disease
4. Maternal neurologic disease
5. History of malignant hypertension
6. Severe asthma with a history of intubation
7. Maternal Chiari malformation
8. History of prior sub-optimal experience with regional anesthesia
9. Risk Factors for Failed Intubation
    a. Marked obesity
    b. Severe edema or anatomical abnormalities of the face or neck or spine, including trauma or surgery
    c. Abnormal dentition, small mandible, or difficulty opening the mouth
    d. Extremely short stature, short neck, or arthritis of the neck
    e. Goiter
10. Bleeding disorders
11. Severe preeclampsia
12. Previous history of anesthetic complications
13. Obstetric complications likely to lead to operative delivery, i.e., placenta previa or multi-fetal gestation

Reference:

- The American College of Obstetricians and Gynecologists' Practice Bulletin Number 36. Obstetric Analgesia and Anesthesia. July, 2002, Reaffirmed 2012.

POST – PARTUM CARE

Birth outcomes are influenced by social, psychological, behavioral, environmental, and biological factors as these time periods before and in between pregnancies offer unique opportunities to positively alter these influences. All patients seen through the CFHS perinatal direct care must have documentation of their post-partum care, whether seen at the CFHS direct care site or outside of the CFHS direct care site. The post-partum visit is a time to reinforce healthy lifestyles. It also provides the venue to follow-up on unresolved clinical issues from pregnancy and/or identifies and addresses complications of the post-partum period? The post-partum visit should occur between 6-8 weeks after delivery. Some patients should receive an additional visit 7-10 days post-delivery. Examples include:

- Cesarean deliveries for an incision check
- Assessment of blood pressure for women with post-partum hypertension whether due to pre-eclampsia or chronic hypertension

The comprehensive post-partum visit should include:

- Clinical history
  - Review of medical history, prenatal record, and delivery outcomes
    - Schedule post-partum glucose testing for any patient with gestational diabetes
    - Vaccinate for any non-immune conditions
  - Assessment of breastfeeding status and refer as needed
  - Development of reproductive life plan and contraceptive options.
  - Psycho-social evaluation
    - Post-partum depression
    - Family violence
    - Maternal-infant attachment
  - Review management or treatment referral needs for any chronic conditions such as diabetes or chronic hypertension
  - Monitor smoking cessation, if applicable
- Physical examination
  - Weight/BMI calculation
  - Blood pressure
  - Breast examination
  - Abdominal examination
  - Pap smear if indicated
  - Pelvic examination
  - Screen for sexually transmitted infections if indicated
- Review needed follow up for well woman care

Reference:

- The American Academy of Pediatrics and the American College of Obstetricians and Gynecologists. Guidelines for Perinatal Care, 7th Edition 2012.

Resources:

- Every Woman California: The Inter-Conception Health Project. Algorthyms and patient handouts (both Spanish and English) for the post-partum management of medical and psycho-social conditions.
- http://everywomancalifornia.org/content_display.cfm?contentID=359&categoriesID=120&CFID=3380560&CFTOKEN=38926533

BIOMEDICAL RISK ASSESSMENT

HEMATOLOGIC

Prevention of Isoimmunization. All pregnant patients should undergo an antibody screen at the first prenatal visit. Patients who are RhD-negative are candidates for Rhogam (RhIG). If antibodies are not already present, RhD-negative patients should receive 300 micrograms of RhIG intra-muscularly at 28 weeks of gestation. Additional indications for administration include: spontaneous/elective abortion, genetic amniocentesis, chorionic villous sampling and

fetal blood sampling. Strong consideration to RhIG administration should be given if: blunt abdominal trauma, external cephalic version, hydatidiform mole, threatened abortion.

Anemia. The most common causes in pregnancy are iron deficiency and acute blood loss. Classification as anemic varies by trimester of pregnancy: having a hemoglobin and hematocrit less than 11 g/dL and 33% in the first or third trimesters or less than 10.5 g/dL and 32% in the second trimester. A complete blood count should be obtained at the initial visit. Consider a repeat between 24-28 weeks of gestation at the time of the one hour glucose challenge test. Women who are found to have iron deficiency anemia should be treated with supplemental iron.

Hemoglobinopathies. The diagnosis of hemoglobinopathies, including sickle cell disorders, is made by hemoglobin electrophoresis. In the homozygous form, nearly all the hemoglobin is Hb S with small amounts of Hb A_2 and Hb F. Heterozygous sickle cell trait (Hb AS) is identified by a larger percentage of Hb A and an asymptomatic course. Solubility tests (Sickledex) alone are inadequate for diagnosis of sickle cell disorders because they cannot distinguish between the heterozygous AS and homozygous SS genotypes. In addition, they fail to detect other pathologic variants such as Hb C trait, β-thalassemia trait, Hb E trait, Hb B trait, and Hb D trait.

High risk groups for screening include people of African-American (sickle cell disease), Southeast Asian (alpha-thalassemia), and Mediterranean descent (beta-thalassemia). Although those with the trait are usually asymptomatic they may produce progeny at risk for the disease if their partner also has trait. (If the patient is identified as having trait, the baby's father must be screened. If he is also positive for trait, genetic counseling is recommended).

References:

- The American College of Obstetricians and Gynecologists' Practice Bulletin Number 95. Anemia in Pregnancy. July, 2008—Reaffirmed, 2011.
- The American College of Obstetricians and Gynecologists' Practice Bulletin Number 78. Hemoglobinopathies in Pregnancy. January, 2007—Reaffirmed 2008

Cervical Cancer Screening. Pregnant women should be screened using the same guidelines as those for non-pregnant women. In pregnancy, the only diagnosis that may alter management is that of invasive cancer. The primary goal of colposcopy during pregnancy is the exclusion of invasive cancer. Colposcopic-directed biopsy of any lesion is acceptable. There is no link to adverse perinatal outcome. Endocervical curettage is contra-indicated during pregnancy. All women with high grade squamous intra-epithelial lesions (HGSIL) should under colposcopy. Unless invasive cancer is identified or suspected, treatment of CIN is contraindicated during pregnancy.

References:

- The American College of Obstetricians and Gynecologists' Practice Bulletin Number 131. Screening for Cervical Cancer. November 2012.
- http://www.odh.ohio.gov/~/media/ODH/ASSETS/Files/cfhs/rhwp/familyplanningclinicalprotocols2010.ashx

INFECTIOUS DISEASE SCREENING

All pregnant women should be screened for the following:

Asymptomatic bacteriuria. The prevalence of asymptomatic bacteriuria is 5-10% in pregnancy. If positive (defined as > 10x5 colonies/ml urine in a clean catch, mid-stream sample), treat promptly.

Chlamydia and Gonorrhea. All pregnant women should be screened for chlamydia and gonorrhea. More information and treatment recommendations can be found at www.cdc.gov.

Hepatitis B. Screening is best accomplished by drawing a Hepatitis B surface antigen. High risk patients who test negative should be targeted for vaccination—this may be done in pregnancy. Women who test positive should be: assessed for acute versus chronic carrier status, assessed in terms of liver function status. Infants of women who are known to be HBsAg positive should have both passive and active immunization treatment. Treatment should be started within 12 hours after birth.

Human Immunodeficiency Virus (HIV). All pregnant women should be offered voluntary screening for infection as early as possible in each pregnancy. HIV positive women should not breastfeed.

- HIV screening should be included in the routine panel of prenatal screening tests for all pregnant women.
- HIV screening is recommended after the patient is notified that testing will be performed unless the patient declines (opt-out screening).
- Separate written consent for HIV testing should not be required; general consent for medical care should be considered sufficient to encompass consent for HIV testing.
- Repeat screening in the third trimester is recommended in certain jurisdictions with elevated rates of HIV infection among pregnant women.

Rubella. The appropriate test for immunity is the immunoglobulin G serology. If they are non-immune, they should be vaccinated at their post-partum visit or before leaving the hospital after delivery. Vaccinated women may still breastfeed their children. Rubella vaccine may be given concomitantly with Rhogam. Women should use contraception for 3 months after receiving the vaccine. For women inadvertently vaccinated in early pregnancy, there is no risk to their fetus of congenital rubella.

Syphyilis. All pregnant women should be screened for at the first prenatal visit. High risk patients should be re-screened near term or upon presentation to the labor and delivery unit.

Targeted screening should occur in pregnancy for the following:

Cytomegalovirus or **Toxoplasmosis.** There are currently no recommendations to screen asymptomatic individuals for either of these infections.

Group B Streptococcus (GBS). Universal screening and intrapartum antibiotic prophylaxis continue to be the cornerstones of early-onset GBS disease prevention. Pregnant women should be screened for at 35 to 37 weeks—there needs to be vaginal and rectal cultures; this can be a combined culture. Women who have previously had a baby with this disease or have had a urinary tract infection caused by GBS during their current pregnancy are already considered at high risk and will automatically be treated during labor. For women with penicillin allergy, culture sensitivity to clindamycin should be ordered. The most recent guidelines for screening and therapy are found at http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5910a1.htm?s_cid=rr5910a1_w.

Hepatitis C. High risk populations include those women with: a history of intravenous drug use, unexplained liver dysfunction, history of blood transfusion prior to 1990, and HIV positive status. Consideration for screening should be given to women who are incarcerated that have a history of opiate addiction, and/or have either tattoos and/or body piercings. If positive, liver function studies and viral load testing should be performed. The perinatal transmission rate is 5-9% overall. Cesarean delivery should be reserved for only standard obstetric indications. Breastfeeding is not contra-indicated for HCV positive women.

Tuberculosis. Criteria for screening in pregnancy are the same as the non-pregnant population. The Advisory Committee for the Elimination of Tuberculosis (ACET-CDC) recommends persons infected with the human immunodeficiency virus or otherwise immuno-compromised, and those with close contacts of persons known or suspected to have tuberculosis. Foreign-born persons from countries with high disease prevalence (most countries in Latin America, the Caribbean, Africa, Asia, Eastern Europe, and Russia), medically underserved low-income populations, alcoholics and intravenous drug users, residents of long-term care facilities (correctional institutions, mental institutions, nursing homes/facilities) and medical personnel working in high-risk health care facilities should be tested. Also to be tested, people who have symptoms of TB disease (fever, night sweats, cough, and weight loss).

Varicella. All obstetric patients should be questioned about immunity at the time of the first prenatal visit. If uncertain, an IgG varicella serology should be drawn. If positive, the patient can be reassured about her immunity and lack of risk in the event of a subsequent exposure. If negative, the patient should be counseled to avoid exposure to individuals who may have either varicella or herpes zoster and about receiving the varicella vaccine post-partum.

References:

- The American College of Obstetricians and Gynecologists' Educational and Practice Bulletin Number 20. Perinatal Viral and Parasitic Infections. September, 2000—Reaffirmed 2011.
- Treatment guidelines—CDC MMWR 60:12, 2011. www.cdc.gov
- Prevention of Perinatal Group B Streptococcal Disease: Revised Guidelines from the CDC, 2010. The Morbidity and Mortality Weekly Report. November 19, 2010.
- The American College of Obstetricians and Gynecologists' Committee Opinion Number 485. Prevention of Early Onset Group B Streptococcal Disease in Newborns. April, 2011—Reaffirmed 2013.
- The American College of Obstetricians and Gynecologists Practice Bulletin Number 86. Viral Hepatitis in Pregnancy. ,October, 2007—Reaffirmed 2012.
- The Centers for Disease Control and Prevention. Revised Recommendations for HIV Testing of Adults, Adolescents, and Pregnant Women in Health-Care Settings. The Morbidity and Mortality Weekly Report. September 22, 2006. Volume 55, (RR-14):8-11.
- The American College of Obstetricians and Gynecologists' Committee Opinion Number 418. Prenatal and Perinatal Human Immunodeficiency Virus Testing: Expanded Recommendations. September, 2008—Reaffirmed 2011.
- Screening for Tuberculosis. http://www.cdc.gov/tb/topic/testing/#who. Accessed July 1, 2013.

ENDOCRINE SCREENING

Gestational Diabetes Mellitus is a carbohydrate intolerance that begins or is first recognized during pregnancy. Its prevalence varies in direct proportion to the prevalence of type-2 diabetes in a given population or ethnic group. Clinical risk factors include: age (> 25 years), ethnicity (Hispanic, Native American, African, South or East Asian, or Pacific Islands ancestry), obesity (BMI > 29), family history of diabetes in first degree relatives, previous pregnancy complicated by gestational diabetes, history of macrosomic infant, and history of previous intra-uterine fetal demise.

All women should be screened for gestational diabetes during pregnancy. This should be a 50 gram, 1-hour glucose challenge test; it need not be fasting. For women without risk factors, the screening test is administered at 24-28 weeks of gestation. For women with risk factors, the screening test is administered at less than 20 weeks of gestation and if normal, repeated at the 24-28 weeks of gestation time interval. The threshold Value (assumes venous plasma sample): Either of these is acceptable: 135 mg/dL: Sensitivity of 90% or 140 mg/dL: Sensitivity of 80%. The diagnostic testing consists of 100 gram, 3-hour oral glucose tolerance test. Diagnosis is by having two out of four elevated values. It is administered in the morning after an overnight fast and for 3 days prior to test, there should be no dietary restrictions and at least 150 grams of carbohydrates/day should be consumed. Two sets of diagnostic criteria exist (either are acceptable):

	Carpenter/Coustan (mg/dL)	National Diabetes Data Group (mg/dL)
Fasting	95	105
One Hour	180	190
Two Hours	155	165
Three Hours	140	145

Management includes monitoring of blood glucoses: fasting, bedtime, and two hour post-prandial values daily. A Registered/Licensed Dietitian should be consulted to plan a dietary regimen based on the patient's caloric needs and blood glucose levels. Therapy should be started for women who consistently exceed their target blood sugars (Fasting blood glucose < 105, Two hour post-prandial blood glucose < 120, Mean blood glucose throughout day of 90). Insulin is the mainstay of therapy. Glyburide may be used in select women with mild disease instead of insulin when dietary therapy is not sufficient to meet target glycemic values. The medication is started at 2.5 mg once or twice daily and may be increased to a total of 20 mg per day. If hyperglycemia persists, insulin must be started.

Post-Partum Screening should occur for all women with a history of gestational diabetes. Screening should occur 6-12 weeks post-partum. Long-term follow up based on post-partum screen (Normal screen, Assess glycemic status at least every 3 years, Educate about strategies to decrease risk for developing Type II DM, Weight loss and physical activity counseling as needed). For diabetes mellitus diagnosis, refer for diabetes management and obtain an impaired fasting glucose or glucose tolerance or both.

One of two methods is suggested, the 75 gram 2 hour GTT is preferred. All women with a history of gestational diabetes should be educated about their increased risk for developing Type II diabetes mellitus and their need for lifelong screening.

Test	Diabetes Me llitus	Impaired Fasting Glucose	Impaired Glucose Tolerance
Fasting Blood Glucose	$\geq$ 126 mg/dL	100-125 mg/dL	NA
75 gram, 2 hour Glucose Tolerance Test	Fasting value is $\geq$ 126 mg/dL OR 2-hr value is $\geq$ 200 mg/dL	100-125 mg/dL	2-hr glucose is 140-199

- Consider referral for management
- Weight loss and physical activity counseling as needed
- Consider metformin if combined impaired fasting glucose and glucose tolerance
- Medical nutrition therapy
- Yearly assessment of glycemic status

Thyroid. The American College of Obstetricians and Gynecologists recommends that function testing occur in pregnant women with a personal history of thyroid disease or symptoms of thyroid disease. Universal screening is not recommended. The mainstay of thyroid function evaluation is TSH testing.

References:

- The American College of Obstetricians and Gynecologists' Practice Bulletin 137. Gestational Diabetes Mellitus. August, 2013.
- National Institutes of Health Consensus Development Conference Statement. Diagnosing Gestational Diabetes Mellitus, March 4-6, 2013. Obstet Gynecol 2013; 122:358-369.
- Major C for The Society for Maternal-Fetal Medicine. Using hypoglycemic agents in pregnancy to manage gestational diabetes. Contemp OB/GYN 2010; 55:34-38.
- The American College of Obstetricians and Gynecologists Practice Bulletin Number 37. Thyroid Disease in Pregnancy. August, 2002—Reaffirmed 2013.

Resources:

- Current gestational diabetes
  - http://www.marchofdimes.com/pregnancy/complications_gestationaldiabetes.html
  - http://www.cdc.gov/reproductivehealth/maternalinfanthealth/PregComplications.htm
  - http://www.diabetes.org/diabetes-basics/gestational/

- History of gestational diabetes or current Type II diabetes
  - http://aging.ohio.gov/services/evidencebasedhealthyagingprograms/
  - A great resource statewide is OSU Extension Dining with Diabetes at http://fcs.osu.edu/diabetes/.
  - Federally Qualified Health Centers and community health centers are a good resource for those without a primary care provider or those who need assistance with medications and diabetes management at http://www.ohiochc.org
  - The National Diabetes Education Program at www.ndep.nih.gov is a good resource for the public. One may search the site for topics, resources, recipes, or risk assessments.

GENETIC SCREENING

All patients should be screened for risk of genetic diseases and malformations and referred **if needed**. Screening usually focuses on specific populations at increased for a condition on the basis of family history, race, or ethnic background or due to medical conditions or exposures. Genetic screening is always voluntary and always requires informed consent. A questionnaire may be helpful in screening.

Cystic Fibrosis. This is the most common autosomal recessive genetic disease among non-Hispanic Caucasians. There are more than 900 reported mutations present in variable frequencies among different populations. Since it is increasingly difficult to assign a single ethnicity to patients, it is reasonable to offer screening to all pregnant women. It is recommended that the standard screening test for CF encompass a pan-ethnic panel of 25 mutations. It is prudent to determine if the patient has been previously screened before ordering CF screening that may be redundant. If a patient has been screened previously, CF screening results should be documented but the test should not be repeated.

When genetic counseling before screening should offered:

- Both partners have positive carrier testing
- One or both partners has an affected family member
- The woman or her partner have cystic fibrosis
- The partner has apparently isolated congenital bilateral absence of the vas deferens

Screening for Fetal Chromosomal Aneuploidy. See options below. A positive screening result is an indication for genetic counseling.

First trimester screening is performed at 11-13 6/7 weeks of gestation. Conditions screened for include: Trisomies 13, 18, and 21. The test includes: Maternal age, measurement of biochemical markers (Pregnancy-Associated Placental Protein-A and free beta-human chorionic gonadotropin) and ultrasound measurement of the fetal nuchal translucency are the test components. The ultrasound must be performed by a certified ultrasound laboratory.

Second trimester screening is performed at 15-21 6/7 weeks of gestation (depending on the laboratory). Four biochemical markers (alpha-fetal protein, human chorionic gonadotropin, estriol, and inhibin) in addition to the maternal age are used to calculate risks for Trisomies 18 and 21. The alpha-fetal protein alone is used to is used to screen independently for open neural tube defects. Proper interpretation of test results requires knowledge of the correct gestational age. Please review report for accuracy prior to consultation for positive screening results.

Sequential Testing. First and second trimester screening may be combined (both components must be performed by the same laboratory).

Cell Free Fetal DNA may be performed any time in gestation after nine weeks of gestation. It takes two weeks for the test results to return. In approximately 5% of cases, there is insufficient fetal DNA present to perform this test. As yet, this test is not to be used for universal screening. Its use is reserved for women with risk factors for aneuploidy.

Definitive Testing includes either chorionic villus sampling or amniocentesis. Women interested in these options should receive genetic counseling.

References:

- The American College of Obstetricians and Gynecologists' Committee Opinion Number 486. Update on Carrier Screening for Cystic Fibrosis. April, 2011.
- The American College of Obstetricians and Gynecologists' Practice Bulletin Number 77. Screening for Fetal Chromosomal Abnormalities. January, 2007—Reaffirmed 2011.
- The American College of Obstetricians and Gynecologists' Committee Opinion Number 545. Noninvasive Prenatal Testing for Fetal Aneuploidy. December, 2012.

Genetic Screening Appendices:

- Appendix A: Prenatal Genetic Screening Questionnaire
- Appendix B: Cystic Fibrosis Carrier Screening Consent Form
- Appendix C: Alpha-fetoprotein Screening Consent Form

PSYCHO-SOCIAL RISK ASSESSMENT

GENERAL

General psycho-social screening provides an opportunity to identify areas of concern, validate major issues with the patient, provide information and make suggestions for changes, if necessary. For screening to be effective, a well-developed process for referrals is necessary. Every effort should be made to conduct screening in private. It is best offered at the initiation of care and repeated every trimester. Documentation should include the nature of identified problems, the chosen intervention(s), and follow-up plans.

MENTAL HEALTH

Perinatal mood disorders affect up to 20% of women in the United States. Perinatal mood and anxiety disorders include prenatal depression, postpartum depression, postpartum psychosis, and anxiety disorders.

DEPRESSION

One in four women will experience severe **depression** sometime during their lifetime. Depression is the leading cause of disability in women. Only 20% of women with depression seek treatment. Risk factors include a history of or on-going sexual and physical abuse. Ninety percent of women with eating disorders are also depressed. About 20% of women experience some depressive symptoms during pregnancy, with 10% developing major depression. Symptoms include depressed mood most of the day, nearly every day for 2 weeks or longer and/or loss of interest or pleasure in activities that the person usually enjoys, fatigue or lack of energy, restlessness or feeling slowed down, feelings of guilt or worthlessness, difficulty concentrating, trouble sleeping or sleeping too much, and recurrent thoughts of death or suicide. Patients should be formally screened with an instrument like the Edinburgh Postnatal Depression Scale (EPDS) if they present with mood symptoms (see above).

Co-management with a psychiatrist or other mental health professional is recommended. Decisions to discontinue or alter psychotropic medications should only occur after consultation between the mental health professional and obstetrician. The risks, benefits, and alternatives to current therapy should be thoroughly reviewed with the patient. Each year about 6.7% of U.S adults experience major depressive disorder. Women are 70 % more likely than men to experience depression during their lifetime.

Women with depression are at increased risk of developing post-partum depression and should be screened carefully.

Baby Blues

Symptoms of "**Baby Blues**" can occur within four to five days after the birth of the baby, although they can be noticed earlier depending on how the birth of the baby went. Baby Blues normally occur for a few minutes up to a few hours each day. The symptoms should lessen or disappear within fourteen days after delivery.

Symptoms of the "Baby Blues" can be:

Weepiness or crying for no apparent reason
Impatience
Irritability
Restlessness
Anxiety
Fatigue
Insomnia (even when baby is sleeping)
Sadness
Mood Changes
Poor Concentration

Reference:

http://americanpregnancy.org/firstyearoflife/babyblues.htm

Postpartum depression, which is much more serious than the "baby blues" that many women experience after giving birth, when hormonal and physical changes and the new responsibility of caring for a newborn can be overwhelming. It is estimated that 10 to 15 percent of women experience postpartum depression after giving birth.

Current screening tests that can be used during and after pregnancy as indicated by the American Congress of Obstetricians and Gynecologists are:

1) Edinburgh Postnatal Depression Scale (EPDS)
2) Postpartum Depression Screening Scale (PDSS)
3) Patient Health Questionnaire-9 (PHQ-9)
4) Beck Depression Inventory (BDI)
5) Beck Depression Inventory II (BDI-II)
6) Center for Epidemiologic Studies Depression Scale (CES-D)
7) Zung Self-Rating Depression Scale

Risk factors for postpartum depression include a history of depression before pregnancy, depression or anxiety during pregnancy, experiencing stressful life events during pregnancy or the early postpartum period and low levels of social support.

Signs and Symptoms of Depression can include:

- Persistent sad, anxious, or "empty" feelings
- Feelings of hopelessness or pessimism
- Feelings of guilt, worthlessness, or helplessness
- Irritability, restlessness
- Loss of interest in activities or hobbies once pleasurable, including sex
- Fatigue and decreased energy
- Difficulty concentrating, remembering details, and making decisions
- Insomnia, early-morning wakefulness, or excessive sleeping
- Overeating, or appetite loss
- Thoughts of suicide, suicide attempts
- Aches or pains, headaches, cramps, or digestive problems that do not ease even with treatment.

Systems or procedures to ensure that women identified as being at risk for postpartum depression receive appropriate diagnostic services should be in place, and if a diagnosis of depression is confirmed appropriate treatment/referral protocols should be established.

References:

- http://www.effectivehealthcare.ahrq.gov/
- http://www.nimh.nih.gov/health/topics/depression/index.shtml
- http://www.nimh.nih.gov/health/publications/women-and-depression-discovering-hope/depression-what-every-woman-should-know.pdf\
- http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2851128/

Resources:

- http://www.postpartum.net/Get-the-Facts.aspx
- http://nihcm.org/pdf/FINAL_MaternalDepression6-7.pdf

SUBSTANCE ABUSE

All pregnant women should be questioned at their first prenatal visit about their past and present use of alcohol, nicotine, and other drugs. Use of specific questionnaires may improve detection rates. Women who acknowledge use should be counseled about the perinatal implications of their use during pregnancy and offered referral to a drug-treatment program.

Alcohol. All women who see primary-care clinicians need to be asked about alcohol use. Questions may be administered by a self-report questionnaire or by direct face-to-face interview. There is no known safe level of alcohol use during pregnancy. The key to preventing Fetal Alcohol Syndrome is to screen all women of child-bearing age. Those at risk should be referred for counseling.

Women and At-Risk Alcohol Use: Screening and Intervention
What is At Risk Alcohol Use for Women?
Greater than 3 drinks/occasion, greater than 7 drinks/week, and any drinking during pregnancy or when medically contraindicated.

Screening
Screen at least annually and during pregnancy

T-ACE-Validated for women of Reproductive age
T-Tolerance: How many drinks does it take to make you feel high? (>2drinks=2 points)
A-Annoyed: Have people annoyed you by criticizing your drinking? (Yes=1 point)
C-Cut down: Have you ever felt you ought to cut down on your drinking? (Yes=1 point)
E-Eye Opener: Have you ever had a drink first think in the morning to steady your nerves or get rid of a hangover? (yes=1 point)
Positive T-ACE is 2 points or more. Any drinking during pregnancy requires education/intervention.

Reference:
Sokol R, et.al. The T-ACE questions: practical prenatal detection of risk drinking. Am J Obstet Gynecol 1989:150:868-70

Establish definition of "a drink" as defined by the patient, then ask:
"In a typical week how many drinks do you have that contain alcohol? Pos. if >7
"in the past 90 days, how many times have you had more than 3 drinks on any 1 occasion?" Pos if >1
Source: NIAAA How to screen for heavy drinking. National Institutes of Health 2009

Suggested messages for Patients on At Risk Alcohol Use:

- Alcohol related effects on fetus can be prevented if addressed prior to and in early pregnancy.
- However it is never too late during pregnancy to reduce risk
- Prenatal Alcohol use can result in physical, behavioral, and cognitive disabilities for child (FASD)
- Reproductive health effects: menstrual, fertility, cancers, unintended pregnancy
- Psychosocial effects: employment, family, mood disorders, legal issues
- If patient voices fear of withdrawal symptoms or says she needs assistance to stop drinking, refer to qualified addictions center. To locate go to SAMHSA treatment locator website http://findtreatment.samhsa.gov.

Resources:

- At-risk drinking and alcohol dependence: obstetric and gynecologic implications. Committee opinion No. 496. American College of Obstetricians and Gynecologists. Obstet Gynecol 2011; 118:383-8.
- www.thearc.org
- http://fasdeducation.org/
- http://pubs.niaaa.nih.gov/publications/FASDFactsheet/FASD.pdf

Illicit Drugs. Nearly 4 percent of pregnant women in the United States use illicit drugs such as marijuana, cocaine, ecstasy and other amphetamines, and heroin. These and other illicit drugs may pose various risks for pregnant women and their babies. Some of these drugs can cause a baby to be born too small or too soon, or to have withdrawal symptoms, birth defects or learning and behavioral problems. Because many pregnant women who use illicit drugs also use alcohol and tobacco, which also pose risks to unborn babies, it often is difficult to determine which health problems are caused by a specific illicit drug. Additionally, illicit drugs may be prepared with impurities that may be harmful to a pregnancy. Finally, pregnant women who use illicit drugs may engage in other unhealthy behaviors that place their pregnancy at risk, such as having extremely poor nutrition or developing sexually transmitted infections. All of these factors make it difficult to know exactly what the effects of illicit drugs are on pregnancy. To reinforce and encourage continued abstinence, periodic questioning and/or urine metabolite testing may be useful. In Ohio, urine metabolite testing may only be done with written consent of the patient.

Screen for illicit drug use and alcohol during pregnancy using the 4Ps (Parents, Partners, Past and Pregnancy)

This screening device is often used as a way to begin discussion about drug and alcohol use. Any woman who answers yes to one or more questions should be referred for further assessment.

1. Have you ever used drugs or alcohol during this Pregnancy?
    a) Yes
    b) No
2. Have you had a problem with drugs or alcohol in the Past?
    a) Yes
    b) No
3. Does your Partner have a problem with drugs or alcohol?
    a) Yes
    b) No
4. Do you consider one of your Parents to be an addict or alcoholic?
    a) Yes
    b) No

References:

- http://www.marchofdimes.com/pregnancy/illicit-drug-use-during-pregnancy.aspx

Resources:

- http://www.marchofdimes.com/pregnancy/illicit-drug-use-during-pregnancy.aspx
- http://americanpregnancy.org/pregnancyhealth/illegaldrugs.html
- http://www.drugabuse.gov/publications/topics-in-brief/prenatal-exposure-to-drugs-abuse
- http://www.oacbha.org/opiate_task_force.php
- http://www.acog.org/~/media/Committee%20Opinions/Committee%20on%20Health%20Care%20for%20Underserved%20Women/co524.pdf?dmc=1&ts=20130626T1051168511
- http://www.dbhds.virginia.gov/documents/scrn-Perinatal-InstrumentsChart.pdf

TOBACCO USE

Despite the well-documented maternal, fetal and infant health effects of smoking during pregnancy, 17.8 percent (2010 VS) of pregnant women in Ohio smoke. Studies suggest that pregnancy is a good time to intervene and that a brief intervention with self-help materials can increase cessation rates by 30-70%. A requirement for applicants receiving CFHS funds for perinatal direct care will be to work with ODH staff to integrate evidence-based smoking cessation interventions into a routine part of healthcare visits.

The Ohio Partners for Smoke-Free Families program was developed in 2006 by the Bureau of Child and Family Health Services at the Ohio Department of Health in collaboration with the Smoke-Free Families National Dissemination Office in Chapel Hill, North Carolina. The program goals of the Ohio Partners for Smoke-Free Families is to 1) Reduce prevalence of smoking among pregnant women, and 2) Increase adoption, reach, and impact of evidence-based smoking cessation programs for pregnant women.

5 As evidence-based smoking cessation intervention.
The evidence-based 5 As office-based smoking cessation intervention incorporates health education with behavior modification and is appropriate for use during routine healthcare visits. By implementing these five steps: Ask, Advise, Assess, Assist, and Arrange healthcare providers can systematically identify women who smoke, advise them to quit, assess their willingness to make a quit attempt and assist them with ways to quit.

A priority for CFHS is to implement evidence-based programs/interventions into the perinatal system of care. Sites providing direct care will:

- Implement the evidence-based 5 As smoking cessation intervention (a brief cessation message of 5-15 minutes delivered by a trained provider with the provision of pregnancy specific material which increases the rates of cessation among pregnant smokers by 30-70%) as a routine part of perinatal care;
- Implement prenatal and post-partum mental health screenings as a routine part of perinatal care.
- Implement post-partum diabetes screening for clients identified with Gestational Diabetes Mellitus (GDM) as a routine part of perinatal care

ODH will be working with Perinatal Direct Care sites to ensure they have the tools, training and technical assistance to conduct these activities.

Smoking Cessation: Clinical Approach

The Ohio Department of Health requires CFHS agencies providing prenatal care integrate all components of the "5 As" smoking cessation intervention. Health care providers have an opportunity to improve the health of mothers and their babies by making smoking cessation a routine part of prenatal care. A brief cessation message of 5-15 minutes, delivered by a

trained provider with the provision of pregnancy specific material, increases rates of cessation among pregnant smokers by 30 to 70 percent. This easy-to-implement, evidence-based clinical approach, the "5 As", is based on the following five steps:

ASK (1 minute) patient about smoking status.

- I have NEVER smoked, or have smoked LESS THAN 100 cigarettes in my lifetime.
- I stopped smoking BEFORE I found out I was pregnant, and I am not smoking now.
- I stopped smoking AFTER I found out I was pregnant, and I am not smoking now.
- I smoke some now, but I cut down on the number of cigarettes I smoke SINCE I found out I was pregnant.
- I smoke regularly now, about the same as BEFORE I found out I was pregnant.

ADVISE (1 minute) Provide clear, strong advice to quit with personalized messages about the impact of smoking on mother and fetus.

ASSESS (1 minute) the willingness of the patient to make a quit attempt within the next 30 days.

ASSIST (3 minutes +) Suggest and encourage the use of problem-solving methods and skills for cessation. Provide social support as part of the treatment. Arrange social support in the smoker's environment. Provide pregnancy-specific, self-help smoking cessation materials.

ARRANGE (1 minute +) Periodically assess smoking status and, if she is a continuing smoker, encourage cessation.

Resources:

- http://www.ncbi.nlm.nih.gov/books/NBK63948/#A28252
- http://www.acog.org/Resources_And_Publications/Committee_Opinions/Committee_on_Health_Care_for_Underserved_Women/Smoking_Cessation_During_Pregnancy
- Further information on the 5As smoking cessation can be found in the appendix.

Tobacco Use References:

Resources for health care professionals-

- Smoke-Free Families National Dissemination Office http://smokefreefamilies.org
- Pregnancy Specific self-help materials. Need help putting out that cigarette?
- The National Partnership to Help Pregnant Smokers Quit http://helppregnantsmokersquit.org
- Policy/Legislation. Providing Coverage for Tobacco Treatment under Medicaid.
- Here's How You Can Help Your Pregnant Patient Quit Smoking.
- Pregnant and Smoking (It's okay to ask for Help) provider's office poster.
- The American College of Obstetricians and Gynecologists (ACOG) http://www.acog.org

Resources for patients-

- Information for providers. Smoking Cessation During Pregnancy: A Clinician's Guide to Helping Pregnant Women Quit Smoking.
- ACOG Educational Bulletin, Number 260.
- Agency for Healthcare Research and Quality http://www.ahcpr.gov/
- U.S. Public Health Service: Treating Tobacco Use and Dependence Clinical Practice Guideline.
- You Can Quit Smoking: Support and Advice from Your Prenatal Care Provider. Available in tear-off pads in English or Spanish.

- Quit lines for pregnant smokers The Great Start Quit line, 1-866-66-START, offers free one-on-one cessation counseling for pregnant smokers 24 hours a day. Sponsored by the American Legacy Foundation and managed by the American Cancer Society.
- Ohio Tobacco Quitline, 1-800-934-4840. Sponsored by Ohio Tobacco Use Prevention and Control Foundation.
- Appendix D: Smoking Questionnaire
- Appendix E: Smoking Cessation FAIR Form and Entry Code

DOMESTIC VIOLENCE

The American College of Obstetricians and Gynecologists recommends that physicians screen all patients for intimate partner violence. There is no law requiring health care providers to report suspected domestic violence incidents. According to Ohio Revised Code (2921.22) health care providers that suspect or confirm domestic violence must document their assessment in the patient's medical record.

For women who are pregnant, screening should occur at various times over the course of the pregnancy because some women do not disclose abuse the first time they are asked and abuse may begin later in pregnancy. Screening should occur at the first prenatal visit, at least once per trimester, and at the post-partum checkup. Domestic violence screening can be conducted by making the following statement and asking the following questions:

Framing Statement
"We've started talking to all of our patients about safe and healthy relationships because it can have such a large impact on your health."*

Confidentiality
"Before we get started, I want you to know that everything here is confidential, meaning that I won't talk to anyone else about what is said unless you tell me that…(Possible child abuse, refer to http://codes.ohio.gov/orc/2151.421)."

1. *Within the past year—or since you have been pregnant—have you been hit, slapped, kicked or otherwise physically hurt by someone?*
2. *Has anyone forced you to have sexual activities that made you feel uncomfortable?"*

Other questions can be found on page 14 of
http://www.odvn.org/images/stories/pdf/Resource_Manual_for_Healthcare_Professionals.pdf

- Do you change what you say or do or always agree with your partner to avoid consequences/angering him/her?
- Does your partner try to control you, make all the decisions, or tell you where you can go or who you can talk to?
- Has your partner ever put his/her hands on you in ways that you didn't want? (push, pinch, restrain, wrestle when you didn't want to, etc.)
- Ever use his/her body to intimidate you? (i.e., corner you, block your path, punch a wall, lock you in a room)

- Does your partner mess with your birth control or refuse to use protection during sex?
- Does your partner make you have sexual contact that you don't want?
- Do you feel **dread** about home/your partner?
- Are you ever afraid to go home/be at home?
- Do you feel safe to go home today?

Domestic Violence References:

- The American College of Obstetricians and Gynecologist' Committee Opinion. Intimate Partner Violence. February, 2012.
- Academy of Violence and Abuse: http://www.avahealth.org
- Futures Without Violence: www.futureswithoutviolence.org
- Forensic Healthcare online: http://www.forensichealth.com
- Ohio Domestic Violence Network: www.odvn.org
- Choices: www.choicesdvcols.org
- National Center on Domestic and Sexual Violence http://www.ncdsv.org
- National Sexual Violence Resource Center http://www.nsvrc.org
- Sexual Assault Forensic Examination Technical Assistance Project (SAFE TA) http://www.safeta.org
- Strangulation article: http://www.forensicnurse.org/associations/8556/files/OTESummer06.pdf
- End Violence Against Women International: www.evawintl.org
- Faith Trust Institute www.faithtrustinstitute.org
- Rape, Abuse & Incest National Network: www.rainn.org
- Drugs of Abuse/Drug Facilitated Sexual Assault: www.projectghb.org
- National Sexual Violence Resource Center: www.nsvrc.org
- Sexual Assault Nurse Examiner/Sexual Assault Response Team website: www.sane-sart.com

ORAL HEALTH

Preventive dental care should be encouraged during pregnancy. Clients should be encouraged to obtain necessary dental treatment during pregnancy. Delaying treatment until after the baby is born may not be a realistic option. The abdomen should be shielded during any X-rays. Local anesthetics may be used in pregnancy. Penicillins and cephalosporins may be used in pregnancy; tetracyclines and oxofloxicins should be avoided due to the potential for teratogenesis

Reinforce the importance of brushing with an appropriate sized, soft bristle toothbrush after each meal. If client is eating more frequently encourage more frequent brushing to maintain healthy gums and teeth. Stress the importance of flossing daily to maintain good periodontal health. Pregnant women may use fluoride gels and mouth rinses (over the counter or prescription available) and topical fluoride treatment given in dentist's office.

IMMUNIZATION DURING PREGNANCY

The benefits of immunization during pregnancy usually outweigh the theoretic risks of adverse effects. Live vaccines are to be avoided but inactivated vaccines may be used as needed in pregnancy.

Influenza vaccine is recommended for **all** women who will be pregnant during influenza season (October through May). The vaccine may be given at any point in gestation. Pregnant women represent a vulnerable population with regard to influenza, and vaccination is an important element of prenatal care.

Pertussis is significantly and consistently increasing in the United States and is a major cause of morbidity and mortality for infants. Maternal immunization is a key strategy in prevention of this infection. ("cocooning"). The revised Advisory Committee on Immunization Practices of the CDC, with the support of ACOG, recommends the administration of the tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccine (Tdap) vaccine to each pregnant woman in each pregnancy, regardless of the maternal history of receiving the vaccine. **Optimal timing of the vaccine is between 27-36 weeks of gestation although it may be given at any time.**

References:

- The American College of Obstetricians and Gynecologists; Committee Opinion Number 558. Integrating Immunizations into Practice. April, 2013.
- The American College of Obstetricians and Gynecologists; Committee Opinion Number 468, Infulenza Vaccination During Pregnancy. October, 2010.
- The American College of Obstetricians and Gynecologists; Committee Opinion Number 566. Update on Immunization and Pregnancy: Tetanus, Diphtheria, and Pertussis Vaccination. June, 2013.
- Current recommendations regarding vaccines in pregnancy may be obtained from the website of the Centers for Disease Control and Prevention at: http://www.cdc.gov/vaccines/acip/committee/guidance/rec-vac-preg.html

NUTRITION EDUCATION AND COUNSELING

Nutrition assessment, counseling and education are essential components of every CFHS clinic providing preventive prenatal care. All prenatal clients must be provided with nutritional assessment/counseling once a trimester and postpartum. Therapeutic dietary counseling for the identified health conditions that respond to diet therapy should be referred to a qualified registered/licensed dietitian.

The Nutrition Care Process is a systematic approach to providing high quality nutrition care. It consists of four distinct, interrelated steps:

- **Nutrition Assessment:** The RD collects and documents information such as food or nutrition-related history; biochemical data, medical tests and procedures; anthropometric measurements, nutrition-focused physical findings and client history.
- **Diagnosis:** Data collected during the nutrition assessment guides the RD in selection of the appropriate nutrition diagnosis (i.e., naming the specific problem).
- **Intervention:** The RD then selects the nutrition intervention that will be directed to the root cause (or etiology) of the nutrition problem and aimed at alleviating the signs and symptoms of the diagnosis.
- **Monitoring/Evaluation:** The final step of the process is monitoring and evaluation, which the RD uses to determine if the patient/client has achieved, or is making progress toward, the planned goals.

Reference:

- Academy of Nutrition and Dietetics— http://www.eatright.org/HealthProfessionals/content.aspx?id=7077

Data collection should include, but should not be limited to:

- Medical history (i.e. chronic illness, prescription and recreational drug use)
- Socioeconomic data (i.e. income available for food, facilities for cooking, cultural, hearing, speech or language and literacy barriers)
- Educational background
- Dietary intake assessment (i.e. 24-hour recall, food frequency, food diary)
- Anthropometric data (obtain blood pressure, current height and weight and plot)
- Biochemical data (glucose, hemoglobin or hematocrit, urinary protein, ketones)
- Physical signs of malnutrition or other medical illnesses such as gestational diabetes or phenylketonuria

Assessment and Plan

- Evaluation of weight (poor or excessive weight gain, pre pregnancy weight and weight gain history with past pregnancies)
- Evaluation of lab values (see Biomedical Risk Assessment)
- Assessment of adequacy of current food intake
- Identifying unusual dietary patterns or pica
- Need for a special diet
- Plan for dealing with common problems (i.e., nausea, heartburn, constipation, diarrhea)
- Physical activity

Nutrition education and counseling topics for each patient should include:

- **Caloric intake**
  - In general, pregnant women need between 2,200 calories and 2,900 calories a day. A gradual increase of calories as the baby grows is the best bet. Here is an overview of how calorie needs change during each trimester:
    - The first trimester does not require any extra calories.
    - During the second trimester, an additional 340 calories a day are recommended.
    - For the third trimester, the recommendation is 450 calories more a day than when not pregnant.
  - Women are encouraged to eat a balanced diet of vegetables, fruit, low-fat dairy, whole grains, and lean proteins.
  - Extra calories can be avoided by cutting down on foods high in fat and added sugars, such as fried foods, soft drinks, desserts, and fatty meats.
  - Physical Activity can help manage weight gain. The activity guidelines for pregnant women are 30 minutes of moderate exercise on most, if not all, days of the week. Women should talk with a doctor before starting or continuing any exercise routine.
  - Choosemyplate.gov offers a customizable SuperTracker and Daily Food Plan for more precise recommendations. It is based on age, height, weight, physical activity level, and stage of pregnancy or breastfeeding.

References:

- Academy of Nutrition and Dietetics—http://www.eatright.org/Public/content.aspx?id=10933
- USDA ChooseMyPlate—http://www.choosemyplate.gov/pregnancy-breastfeeding.html

- **Recommendations for weight gain**

Prepregnancy BMI	BMI (kg/m^2)	Total Weight Gain (lbs)	Rates of Weight Gain* 2nd and 3rd Trimester (lbs/week)
Underweight	<18.5	28-40	1 (1-1.3)
Normal weight	18.5-24.9	25-35	1 (0.8-1)
Overweight	25.0-29.9	15-25	0.6 (0.5-0.7)
Obese (includes all classes)	≥30.0	11-20	0.5 (0.4-0.6)

*Calculations assume a 0.5-2kg (1.1-4.4 lbs) weight gain in the first trimester.

**Women expecting multiples should check with their physician regarding weight gain. Nutrient and calorie needs are higher than those of women carrying one baby.

Reference:

- The Institute of Medicine's 2009 Report: *Weight Gain During Pregnancy: Reexamining the Guidelines* – http://iom.edu/Reports/2009/Weight-Gain-During-Pregnancy-Reexamining-the-Guidelines.aspx

- **Vitamin/Mineral Supplementation**
  - Prenatal vitamins
    - Patients should be encouraged to take a prenatal vitamin, as ordered by their physician, in addition to eating a healthy diet.
  - Folic acid
    - Pregnant and non-pregnant women of child-bearing age should take a multivitamin or prenatal vitamin with 400-600 mcg/day of folic acid. Dietary sources include fortified foods such as cereals, pastas and breads.
  - Iron
    - The rate of iron-deficiency anemia among low-income women during pregnancy is high. In addition to consuming a balanced diet with iron-rich foods, an iron supplement may be ordered by the physician to meet the iron requirements of pregnancy (27 milligrams/day). Iron-rich foods include lean red meat, poultry, fish, dried beans and peas, and iron-fortified cereals. Iron absorption is enhanced by consuming iron-rich foods with vitamin C-rich foods, such as citrus fruits, fruit juices and tomatoes.
  - Calcium
    - Women should consume 1,000 milligrams of calcium a day before, during and after pregnancy. That means at least three daily servings of calcium-rich foods such as low-fat or fat-free milk, yogurt or cheese or calcium-fortified cereals and juices.

Reference:

- Academy of Nutrition and Dietetics—http://www.eatright.org/Public/content.aspx?id=6808

- **Common complications of pregnancy**

  - **Morning sickness**

    Tips to help morning sickness:
    - Avoid large meals. Instead, snack frequently, eating every one to two hours.
    - Drink plenty of fluids.
    - Eat a few soda crackers or dry toast in morning, even before getting out of bed.
    - Aim for foods high in protein and complex carbohydrates such as peanut butter on apple slices or celery; nuts; cheese; crackers; milk; cottage cheese; and yogurt.
    - Eat cold foods if smell of food is bothersome.

- Get up slowly when waking.
- Open window for fresh air.

- **Heartburn**
  - Eat 5-6 small meals.
  - Eat less fried or greasy food.
  - Eat less spicy foods.
  - Drink small sips of water with meals and drink more in between meals.
  - Avoid sodas, coffee, or tea with caffeine.
  - Avoid lying down after eating.

- **Constipation**
  - Eat foods high in fiber such as fruits, vegetables, whole grains, and beans.
  - Drink plenty of water.
  - Walk after eating.

References:

- MedlinePlus—http://www.nlm.nih.gov/medlineplus/ency/article/003119.htm
- March of Dimes—http://www.marchofdimes.com/pregnancy/heartburn-and-indigestion.aspx

- **Food Safety during Pregnancy**

  During pregnancy, a woman's ability to fight off infection is lower than usual. Her unborn baby's immune system is also not fully developed, thus, putting both mom and baby at increased risk of getting sick from eating unsafe food.

  - The Food and Drug Administration (FDA) and the Environmental Protection Agency (EPA) advise women who may become pregnant, pregnant women, nursing women, and young children of the following recommendations:
    - Do not eat shark, swordfish, king mackerel, or tilefish because they contain high levels of mercury.
    - Check local advisories about the safety of fish caught by family/friends in local lakes, rivers, and coastal areas.
    - Eat up to 12 ounces (2 average meals) per week of a variety of fish and shellfish that are lower in mercury.
      - Five of the most commonly eaten fish that are low in mercury are shrimp, canned light tuna, salmon, pollock, and catfish.
      - Albacore or "white" tuna has more mercury than canned light tuna. Limit to 6 ounces (one average meal) per week.
  - Listeriosis is a food-borne illness caused by bacteria. Pregnant women should avoid eating unpasteurized milk and cheeses and raw and undercooked seafood, eggs and meat. Hot dogs, luncheon meats, and cold cuts should only be eaten when heated until steaming hot just before serving.

- Toxoplasmosis is an infection caused by a parasite. If a woman becomes infected while pregnant, she can pass on the infection to the unborn baby. To prevent toxoplasmosis:
  - Wash hands with soap and water after touching soil, sand, raw meat, or unwashed vegetables.
  - Cook meat, poultry, and seafood to the safe minimum internal temperature.
  - Wash all cutting boards and knives with hot soapy water after each use.
  - Cats can spread this parasite. Have someone else change the litter box if possible. If not, wear disposable gloves and wash hands thoroughly with soap and water afterwards.
  - Wear gloves when gardening or handling sand from a sandbox. Cats may use gardens or sandboxes as litter boxes. Wash hands afterward.

References:

- U.S. Food & Drug Administration—http://www.fda.gov/food/resourcesforyou/consumers/ucm110591.htm
- United States Environmental Protection Agency—www.epa.gov/ost/fish
- United States Environmental Protection Agency—www.epa.gov/ost/fish
- The American College of Obstetricians and Gynecologists—http://www.acog.org/~/media/For%20Patients/faq001.pdf?dmc=1&ts=20131010T1109323460
- Office on Women's Health—http://www.womenshealth.gov/pregnancy/
- USDA—Choose My Plate—http://www.choosemyplate.gov/pregnancy-breastfeeding/baby-safe-from-toxoplasmosis.html

- **Miscellaneous Topics in Prenatal Nutrition**
  - Special nutrition counseling must be provided for adolescents, patients with anemia, multiple gestation, diabetes, inappropriate weight gain, pica, hypertension or edema.
    - For more information on pregnancy with twins, triplets or multiples, visit http://www.nlm.nih.gov/medlineplus/twinstripletsmultiplebirths.html
  - Appropriate referrals to food assistance programs such as WIC or SNAP must be made for those who demonstrate eligibility for these services.

References:

- Supplemental Nutrition Assistance Program (SNAP)—http://www.fns.usda.gov/snap
- Women, Infant, Children (WIC) Program—http://www.fns.usda.gov/wic

BREASTFEEDING

Introduction

ODH is committed to promoting optimal health and safety for all Ohio infants and to reducing infant mortality. ODH recognizes its leadership role in establishing standards for policies and practices that promote healthy behaviors among its employees, programs, subgrantees, and other state agencies for what ODH believes to be in the best interest of Ohio citizens.

ODH recommends exclusive breastfeeding for six months, followed by continued breastfeeding as complementary foods are introduced, with continuation of breastfeeding for one year or longer as mutually desired by mother and infant. ODH recognizes that there are rare individual and/or family circumstances in which breastfeeding must be limited or is contraindicated.

Breastfed infants experience immunological and nutritional benefits that infants who are not breastfed do not receive. Benefits of breastfeeding include: improved developmental and psychosocial outcomes, increased mother/infant bonding, reduced health care costs, less environmental waste and reduced infant mortality. Breastfeeding is linked to decreased risk of Sudden Infant Death Syndrome (SIDS), necrotizing enterocolitis (NEC), ear infections, GI infections, celiac disease, inflammatory bowel disease, obesity, diabetes, childhood leukemia and lymphoma, and better neurodevelopmental outcomes.

Numerous professional and public health organizations support breastfeeding and the use of human milk as the preferred method of providing infant nutrition and promoting infant health. Organizations showing their support include: the American Academy of Pediatrics; American College of Obstetricians and Gynecologists; American Academy of Family Physicians; American College of Nurse-Midwives; Academy of Nutrition and Dietetics; US Department of Health and Human Services; National Center for Chronic Disease Prevention and Health Promotion; United States Breastfeeding Committee; International Lactation Consultant Association; Academy of Breastfeeding Medicine; World Health Organization; Neonatal Nurse Practitioner; Association of Women's Health, Obstetric and Neonatal Nurses; and the National Association of Pediatric Nurse Practitioners.

Counseling guidelines

The most common barriers to breastfeeding experienced by nursing mothers include: lack of knowledge, social support, and support from health care providers as well as lack of availability or awareness of breastfeeding support programs, child care or work constraints and embarrassment. Addressing these barriers at the community and policy level can help individual mothers achieve their own breastfeeding goals and can improve population health by increasing babies that breastfeed for the recommended length of time.

The choice of an infant feeding method is an important component of prenatal counseling and education. The final choice of infant feeding lies with the mother. Women need accurate information in order to make informed choices. The key to all education is to support the mother in her choice.

The perinatal provider is critical in assisting mothers with breastfeeding during preconception, prenatal, post-partum and interconception visits. Mothers of infants often need further information to maintain lactation and manage common concerns of breastfeeding:

a. Education on infant feeding cues
b. Correct positioning and latch-on techniques
c. List of resources and referral sources for breastfeeding support (WIC breastfeeding support person, La Leche League, Lactation Consultants and breastfeeding literature)
d. Pumping and safe preparation, handling and storage of expressed breast milk
e. Tips for addressing common problems
f. Compatible contraceptive options
g. Maternal/infant conditions exceptions

For more information:

- http://www.babyfriendlyusa.org/
- http://www.usbreastfeeding.org
- http://www.cdc.gov/breastfeeding/resources/guide.htm
- http://womenshealth.gov/itsonlynatural/
- http://www.lalecheleague.org/nb.html
- http://www.who.int/nutrition/publications/infantfeeding/9241541601/en/

References:

- American Academy of Pediatrics. (2012). Breastfeeding and the Use of Human Milk, *Pediatrics*, 129 (3), e827-e841. Retrieved from http://pediatrics.aappublications.org/content/129/3/e827.full.pdf+html
- U.S. Department of Health and Human Services. (2000). *HHS Blueprint for Action on Breastfeeding*. Washington D.C: U.S. Department of Health and Human Services, Office of Women's Health. Retrieved from: http://www.womenshealth.gov/archive/breastfeeding/programs/blueprints/blueprntbk2.pdf
- Scanlon, K. S., Grummer-Strawn, L., Li, R., Chen, J., Molinari, N., Perrine, C. G. Racial and Ethnic Differences in Breastfeeding Initiation and Duration, by State --- National Immunization Survey, United States, 2004—2008, *Morbidity and Mortality Weekly Report*, 59(11);327-334. Retrieved from: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5911a2.htm
- U.S. Department of Health and Human Services. (2011). *The Surgeon General's Call to Action to Support Breastfeeding.* Washington, D.C.: U.S. Department of Health and Human Services, Office of the Surgeon General. Retrieved from: http://www.surgeongeneral.gov/library/calls/breastfeeding/calltoactiontosupportbreastfeeding.pdf
- Australian Breastfeeding Association. (2012). Position Statement on Breastfeeding. Retrieved October 17, 2012, from: https://www.breastfeeding.asn.au/aboutaba/positionstatement
- American Academy of Pediatrics. (2011). SIDS and Other Sleep-Related Infant Deaths: Expansion of Recommendations for a Safe Infant Sleeping Environment, *Pediatrics*, 128 (5), 1030-1039. Retrieved from http://pediatrics.aappublications.org/content/128/5/1030.full.pdf+html?sid=e488fc34-715b-4fb8-a433-40600375ef59

Resource:

- ODH Infant Feeding Policy and Resource List—
  http://www.odh.ohio.gov/odhprograms/cfhs/cf_hlth/cfhs1.aspx

IDENTIFICATION & MANAGEMENT OF LEAD EXPOSURE IN PREGNANT WOMEN

Primary prevention of childhood lead poisoning begins before birth. All pregnant women should be given anticipatory guidance and education about potential lead exposure. Routine blood lead testing of **all** pregnant women is **not** recommended. Blood lead testing of pregnant women with identified risk factors for lead exposure is recommended for affirmative answers for Questions 1-7 on the Prenatal Risk Assessment for Lead. In Ohio, these are the main risk factors for lead poisoning:

- Occupations or hobbies that have the potential for lead exposure (see risk assessment tool)
- Children in the household with lead poisoning
- Personal history of lead poisoning

The Prenatal Risk Assessment for Lead also may be useful in identifying potential lead exposure for risk reduction counseling and education. Blood testing is by venous sample only. Level should be drawn as early in pregnancy as possible. There is an observed decrease in blood lead levels (BLLs) from 12-20 weeks of gestation, so levels drawn in the second trimester may underestimate the actual body lead burden.
Http://publicapps.odh.ohio.gov/Envlicense_Reports/External_License_Search.aspx?Program=Lead links to a list of certified laboratories using an approved method. Communication of maternal blood lead level results should be conveyed to the pediatric health care provider.

Management of elevated maternal blood lead levels (See Table 2)

Provide anticipatory guidance and health education materials. Attempt to determine source(s) of lead exposure and counsel patient on reduction strategies. All exposures accepted referred to the Ohio Department of Health's Adult Blood Lead Epidemiology and Surveillance (ABLES) Program.

- 1-877-LEAD-SAFE
- 1-614-728-4115 (ABLES Coordinator)

Assess nutritional adequacy

All pregnant women should have an individualized dietary assessment. Eat frequent and regular meals. Environmental lead is more easily absorbed on an empty stomach. Increase the amount of iron (30 mg elemental daily unless anemia, then 60-120 mg daily)—fortified breads & cereals, cooked legumes [dried beans/peas], spinach, lean red meat) and calcium (2,000 mg daily – milk, yogurt, cheese, cooked greens, calcium fortified orange juice) in diet. There is to be confirmatory and follow-up testing—see Table 1. Any children in the household should be tested for lead.

Breastfeeding

Initiation of breastfeeding should be encouraged for mothers with BLLs <40 micrograms/dL. At BLLs between 20-39 micrograms/dL, breastfeeding should be initiated and accompanied by sequential infant BLLs to monitor trends. A woman with a confirmed BLL ≥40 should not initiate breastfeeding. She may pump and discard her breast milk until her level declines to <40.

Identification and Management of Lead Exposure in Pregnant Women References:

- http://www.cdc.gov/nceh/lead/publications/LeadandPregnancy2010.pdf
- http://www.cdc.gov/nceh/lead/tips/pregnant.htm

Table 1: Follow-up Blood Lead Testing during Pregnancy

Venous[a] Blood Lead Level (micrograms/dL)	Performance of follow-up test(s)
< 5 µg/dL	None needed
5-14 µg/dL	Within 1 month. Obtain maternal BLL[b] or cord BLL at delivery.
15-24 µg/dL	Within 1 month and then every 2-3 months. Obtain maternal BLL[b] or cord BLL at delivery. More frequent testing may be indicated based on risk factor history.
25-44 µg/dL	Within 1-4 weeks and then every month. Obtain a maternal BLL[b] or cord BLL at delivery.
≥45 µg/dL	Within 24 hours and then at frequent intervals depending on clinical interventions and trend in BLLs. Consultation with a clinician experienced in the management of pregnant women with BLLs in this range is strongly advised (Call Poison Control @1-800-222-1222). Obtain a maternal BLL or cord BLL at delivery.

[a] Venous blood sample is recommended for maternal blood lead testing.

[b] If possible, obtain a maternal BLL as early in pregnancy as possible.

Table 2: Management of Elevated Maternal Blood Lead Levels

BLL	Health Care Providers	Ohio Adult Blood Lead Epidemiology and Surveillance (ABLES) Program
<5 µg/dL	• Provide lead exposure and risk reduction health education materials to all pregnant and lactating women	• Collects all blood lead test results on all Ohio residents
5-9 µg/dL	Above actions plus • Attempt to determine source(s) of lead exposure and counsel patients on strategies to reduce exposure • For occupationally exposed women, review proper use of personal protective equipment and consider contacting the employer • Assess nutritional adequacy • Follow-up testing	As above
10-14 µg/dL	Above actions plus • Notify Ohio ABLES program (1-877-LEAD-SAFE) • Recommend removal from exposure • Assist Ohio ABLES program with complete exposure source assessment	Above actions plus • Contacts patient when notified and sends out health education materials to patient • Recommends removal from exposure
15-44 µg/dL	As above	Above actions plus • If an occupation exposure is identified, refers worksite for investigation to partnering occupational health organizations
≥45[a] µg/dL	Above actions plus • Treat as high-risk pregnancy (consider consultation with a maternal-fetal medicine specialist) • Consider in-patient chelation in consultation with a lead poisoning expert (Call Poison Control @ 1-800-222-1222)	Above actions plus • Facilitates consultation with an identified lead poisoning expert experienced in managing chelation in pregnant women

[a] Blood lead levels ≥70 µg/dL may result in significant maternal toxicity; therefore, chelation should be considered regardless of trimester of pregnancy and in consultation with an identified lead poisoning expert.

Prenatal Risk Assessment Questions for Lead

If "yes" to questions 1-7, blood lead testing is recommended.

1. Do you or others in your household have an occupation involving lead exposure?
   - ☐ Ammunition/explosives production
   - ☐ Automotive repair shops
   - ☐ Battery manufacturing and recycling
   - ☐ Brass, bronze, copper or lead foundries
   - ☐ Bridge, tunnel and elevated highway/subway construction
   - ☐ Cable/wire stripping, splicing or production
   - ☐ Ceramic manufacturing
   - ☐ Firing range work
   - ☐ Glass recycling, stained glass and glass manufacturing
   - ☐ Lead abatement
   - ☐ Lead production or smelting
   - ☐ Machining or grinding lead alloys
   - ☐ Manufacturing and installation of plumbing components
   - ☐ Manufacturing of industrial machinery and equipment
   - ☐ Metal scrap yards and other recycling operations
   - ☐ Motor vehicle parts and accessories
   - ☐ Occupations using firearms
   - ☐ Plastics manufacturing
   - ☐ Pottery making
   - ☐ Production and use of chemical preparations
   - ☐ Rubber manufacturing
   - ☐ Sandblasting, sanding, scraping, burning or disturbing lead paint
   - ☐ Use of lead based paints
   - ☐ Welding or torch-cutting painted metal
2. Do you or others in your household have any hobbies or activities likely to cause lead exposure?
   - ☐ Making stained glass or painting on stained glass
   - ☐ Copper enameling
   - ☐ Bronze casting
   - ☐ Making pottery and ceramic ware with lead glazes and paints
   - ☐ Casting ammunition, fishing weights or lead figurines
   - ☐ Collecting, painting or playing games with lead figurines
   - ☐ Jewelry making with lead solder
   - ☐ Electronics with lead solder
   - ☐ Furniture refinishing
   - ☐ Glassblowing with leaded glass
   - ☐ Print making and other fine arts
   - ☐ Liquor distillation

- Hunting and target shooting

3. Do you have children in the household with lead poisoning?
4. Do you have a history of lead poisoning?
5. Have you in the past five years, or are you currently, fixing a home built before 1978 for your job, hobby, or personal use?
6. Sometimes pregnant women have the urge to eat things which are not food, such as clay, soil, plaster or paint chips. Do you ever eat or chew on non-food items?
7. Were you born or have you spent any time outside of the United States

If "yes" to questions 8-11, risk reduction counseling/education is recommended.

8. To your knowledge, has your home been tested for lead in the water, and if so, were you told that the level was high (> 15 parts per billion (ppb))?
9. Do you use any traditional folk remedies or cosmetics that are not sold in a regular drug store or are homemade, which may contain lead? For example: kohl, kajal, surma, greta, azarcon, bali goli, pay-loo-ah, and ghazard
10. Do you use non-commercially prepared pottery or leaded crystal for eating or drinking?
11. Do you live in or regularly visit a house that either has chipped or peeling paint or has been remodeled or renovated in the past five years?

PREVENTION OF SPONTANEOUS PREMATURE BIRTH

All patients with a prior history of a spontaneous premature birth (either due to preterm labor or preterm premature rupture of the membranes) that occurred between 16 and 36 weeks of gestation should be offered 17-progesterone caproate injections or vaginal suppositories. The goal is to reduce the recurrence risk of spontaneous premature birth. Therapy is to begin between 16-20 weeks of gestation and continue through 36 weeks of gestation. You may begin as late as 24 weeks of gestation; there may be some benefit. Spontaneous premature birth includes past pregnancies complicated by cervical incompetence/insufficiency, infection, and cerclage placement.

Populations currently not shown to benefit from progesterone are women with multi-fetal gestations (twins, triplets) and no history of a prior preterm birth and women with preterm labor in a current pregnancy and no history of a prior preterm birth.

Mechanism of action: plausible actions are anti-inflammatory effects, relaxation of smooth muscle (oxytocin antagonist) reducing gap-junction formation and maintaining cervical integrity. Routes of therapy are vaginal suppositories 200 mg qhs after voiding and intra-muscular injections 250 mg every week (range: 5-9 days).

Possible side effects:

Common
- Swelling at the injection site
- Soreness at the injection site
- Pruritis at the injection site
- Bruising at the injection site
- Urticaria
- Injection nodule
- Vaginal dryness (suppositories)

Uncommon
- Headaches
- Nausea/vomiting
- Diarrhea

References:

- Meis PJ. Society for Maternal-Fetal Medicine. 17 hydroxyprogesterone for the prevention of preterm delivery. Obstet Gynecol. 2005;105:1128-35
- The American College of Obstetricians and Gynecologists' Practice Bulletin, Prediction and Prevention of Preterm Birth. October, 2012.
  Personnel Communication. Jay D. Iams, MD. Division of Maternal-Fetal Medicine, The Ohio State University College of Medicine.

REPRODUCTIVE LIFE PLAN

Knowledge of the Reproductive Life Plan (RLP) is the key component of reproductive life planning. Women need to understand how reproductive life planning relates to preconception health care and the preconception health promotion movement and the importance of RLP's in all BCFHS programs. It is essential to increase awareness about the importance of counseling all patients of childbearing age about reproductive life planning.

A RLP is a set of personal goals about having or not having children, as well as the number and spacing of children if and when you choose to have them. Everyone (men and women) are encouraged to make a reproductive life plan based on their own values, goals, and resources. The reproductive life plan may be referred to as "Life Plan", "Family Life Plan", or "My Plan."

Preconception health is about getting and staying healthy during reproductive years (the time period that you can have a baby) to help prepare for a healthy pregnancy. It is about protecting the health of the baby that one may have in the future. During this time, it is about finding and fixing any problems that may affect the health of the mother and her baby later.

Lack of planning for a pregnancy and pregnancy spacing, management of health conditions, environmental risk factors, and negative health behaviors that affect pregnancy outcomes leads to:

- Unintended pregnancies
- Increased risk for preterm births
- Increased rates of birth defects
- Poorer health status for women
- Increased health disparities
- Increased risk of infant mortality

Prevent Unintended Pregnancies and Promote Birth Spacing

Women who have very closely spaced pregnancies (within 6 months of a previous live birth or pregnancy) are more likely to have preterm or low-birth weight babies. The correct, consistent use of family planning methods leads to more women spacing their pregnancies 18 to 24 months apart. Encouraging family planning and the use of contraceptive methods has other advantages including reductions in maternal and infant mortality, lower rates of unintended pregnancies, and prevention of STIs, including HIV.

Questions to ask

- Do you hope to have any or more children?
- How many children do you hope to have?
- How long do you plan to wait until you become pregnant?
- How much space do you plan to have between your pregnancies?
- What do you plan to do until you are to become pregnant?

5As of Reproductive Life Planning

Ask

- Are you sexually active?
- Are you using birth control?
- Do you want to have children
- What are your health history and your family history?
- What are your current health behaviors (tobacco, alcohol, drug use)?
- Is there a history of sexual or domestic violence?
- Are your immunizations current?

Advise

- Risks of unintended pregnancy
- Family planning and contraception
- STI prevention and condom use
- Substance abuse and tobacco cessation
- Healthy diet and exercise habits
- Taking multivitamin or prenatal vitamin with folic acid
- Recommendations for health pregnancies, including optimal birth spacing (18 months)

Assess

- Client's understanding of risk for unintended pregnancy
- Readiness to become a parent
- Health and physical history
- Health behaviors
- Emotional Health
- Social support and financial situation
- Education goals and career plans
- Environmental stressors (lack of housing, no insurance, etc.)

Assist

- Discuss contraceptive methods including LARCs
- Develop plan to stop smoking, using drugs or alcohol
- Develop plan to lose weight or start exercising
- STI prevention with condom use
- Improve emotional health, decrease anxiety and stress
- Understand what a health relationship and readiness to become a parent means
- Developing personal and professional goals

Arrange

- Arrange follow-up appointment or services as needed to promote healthy pregnancy or prevent unintended pregnancy
- Make referrals as needed to primary care provider or obstetrician/gynecologist for additional counseling services

Reproductive Life Plan

Name: _____ **Date:** _____

Do you want to have children one day? ☐ **Yes** ☐ **No**

If yes:

At what age you would like to have children? _____

How many children would you like? _____

How far apart would you like your children to be? _____

Are you now using birth control method? ☐ Yes ☐ No

If no:

What will you do if you do become pregnant? _____

Personal Habits

Do you smoke? ☐ Yes ☐ No

Do you drink? ☐ Yes ☐ No

If yes, how much? _____

Are you having sex with more than one partner/person? ☐ Yes ☐ No

Do you sometimes go on unhealthy diets or overeat? ☐ Yes ☐ No

Do you use street drugs or prescription drugs for fun? ☐ Yes ☐ No

Emotional Health

When you feel sad do you bounce back quickly or feel sad for 2 weeks or more? _____

How often do you feel nervous, anxious, or worried? _____

How do you calm yourself down if you are angry? _____

Is there anyone in your life who physically hurts you? ☐ Yes ☐ No

Is there anyone in your life who often says hurtful or mean things? ☐ Yes ☐ No

Important Vaccinations – Check vaccinations you have received.

- ☐ Tetanus
- ☐ Hepatitis
- ☐ Hepatitis B
- ☐ Gardasil
- ☐ Varicella (chicken pox)
- ☐ Measles, Mumps, Rubella
- ☐ Inactivated Polio Virus
- ☐ Pertussis (whooping cough)

Family History – Check those which have happened in your immediate family.

- ☐ A baby born too soon or weighing less than 5 ½ lbs
- ☐ High blood pressure in pregnancy
- ☐ Diabetes in pregnancy
- ☐ Two or more miscarriages
- ☐ Stillborn baby
- ☐ Baby with a heart defect
- ☐ Stroke
- ☐ Asthma
- ☐ Heart or Lung Disease
- ☐ Other:

Personal Goals:

I will take a daily multivitamin or prenatal vitamin with folic acid. ☐

I will start exercising or exercise more often. ☐

I will **quit** smoking or **smoke less**. ☐

I will **increase** or **always** use condoms when having sex. ☐

I will **quit** or **decrease** the amount of alcohol or drugs I use. ☐

I will **increase**, **maintain** or **reduce** my weight. ☐

I will not get pregnant until I am ready by not having sex or by always using birth control. ☐

Other:_____
_____
_____

Professional Goals:

1. _____
   _____
   _____
2. _____
   _____
   _____

More Information Provided About:

☐ Birth Control Methods
☐ Physical Abuse
☐ Overeating
☐ Smoke Cessation
☐ Emotional Abuse
☐ Vaccinations
☐ Alcohol Abuse
☐ Anxiety and Stress
☐ Drug Abuse
☐ Unhealthy Dieting
☐ Sexually Transmitted Diseases

Reproductive Life Plan References:

- http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1592152/
- http://www.acog.org/~/media/For%20Patients/faq056.pdf?dmc=1&ts=20130228T0917280119
- Some information in presentation was retrieved from the Women's Health Branch, NC DHHS, Division of Public Health

Reproductive Life Plan Tools for Health Professionals:

- CDC has developed a Reproductive Life Plan (RLP) Tool for health professionals. The RLP Tool contains questions that health professionals can use with their patients.
- CDC has developed a. The RLP Tool contains questions that health professionals can use with their patients.
    - http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5506a1.htm CDC recommendations for Preconception Health
    - http://www.beforeandbeyond.org/
    - http://www.beforeandbeyond.org/?page=cme-modules Continuing Education Modules
    - http://somedaystartsnow.com/
    - http://manupplanup.com Great resource for guys
- **Reproductive Life Plan templates**
    - http://dhss.delaware.gov/dph/chca/files/adultlifeplan2011.pdf
    - http://dhss.delaware.gov/dph/chca/files/teenlifeplanfinal.pdf
    - http://everywomannc.com/sites/default/files/documents/Are%20You%20Ready%20-%20Sex%20And%20Your%20Future.pdf
    - http://www.cdc.gov/preconception/documents/ReproductiveLifePlan-Worksheet.pdf

HISTORY AND PHYSICAL EXAM

	History	Physical	Laboratory	Nutrition	Psychosocial
Initial Visit	Signs/sx since LMP PMH/PSH FMH Meds/All Risk Assessment	Vital signs inc weight Skin, breasts, abdomen, thyroid, extremities, heart, lungs. FHR if after 12 weeks. Oral exam	Pap, GC, Chlamydia, HIV (offer), H/H, T&S, Rebella IgG, Rpr, U/A, HepBsAg, CF Carrier Screen, Sickle Cell Screen	Prenatal Vitamins given Review dietary history past 1-3 days. Counsel re: diet, ideal wt gain, ideal caloric intake	Assess personal resources (housing, transportation. Health care access including assistance programs. Screen for alcohol, tobacco, illicit drug use. Council cessation for positive screen. Screen for domestic violence, depression. Refer for positive screen
Follow-Up Visit	Interim signs/sx-assess maternal fetal well-being. Ask about fetal movement, contractions, leakage of fluid, and vaginal bleeding	Vital signs inc weight, FH, FHT, Pedal edema, Urine for protein & glucose	MSAFP (offer 16-20 weeks) GCT (24-28 weeks) U/S if indicated Urine dipstick for protein, glucose	Assessment q trimester	Assess personal resources (housing, transportation. Health care access including assistance programs. Screen for alcohol, tobacco, illicit drug use. Council cessation for positive screen. Screen for domestic violence, depression. Refer for positive screen
Problem Focused Visit	Problem-focused	Problem-focused	Problem-focused	Problem-focused	Problem-focused
Post-Partum	Interim signs/sx. Mentrual Hx. Family Planning	Vital signs, Breasts, abdomen, pelvic, recto-vaginal	Glucose Screening if gestational diabetes. Problem-focused Pap test		Screen for alcohol, tobacco, illicit drug use. Council cessation for positive screen. Screen for domestic violence, depression. Refer for positive screen

Abbreviations

CF - cystic fibrosis
U/A – urinalysis
q – Every
GC – gonorrhea
FH – fundal height
Wt – weight
PSH – past surgical history
U/S – ultrasound
FHR – fetal heart rate
LMP – last menstrual period
Sx – symptoms
T&S – type and screen
H/H – hemoglobin &hematocrit
Rpr/VDRL – syphilis screen
MSAFT – maternal serum alpha-fetoprotein
PMH – past medical history
HepBsag – Hepatitis B surface antigen
GCT – glucose challenge test
FMH – family medical history
IgG – immunoglobulin G
Hx - history

APPENDIX A

Prenatal Genetic Screening Questionnaire

Maternal Age at Delivery (> 35 years, consultation)_____
Paternal Age at Delivery (> 55 years, consultation)_____

List any medications taken since conception with stop and start dates, if applicable:

_____
_____
_____
_____

Maternal Ethnic Background _____
Paternal Ethnic Background _____

Check whether you, your baby's father, or anyone in either of your families has had any of the following problems. If a family member, list his/her relationship to you.

Condition	Patient	Father of Baby	Family Member
Thalassemia			
Neural Tube Defect			
Congenital Heart Defect			
Down Syndrome			
Tay-Sachs			
Canavan Disease			
Sickle cell disease or trait			
Hemophilia or other blood disorders			
Muscular dystrophy			
Cystic fibrosis			
Huntington's chorea			
Mental Retardation/Autism*			
Other genetic/chromosomal disorder			
Other birth defect			
Recurrent pregnancy loss or stillbirth			
Diabetes mellitus			
Phenylketonuria			

*If yes, was individual tested for Fragile X syndrome

If yes, to any of the above, consultation with a genetic counselor or a maternal-fetal medicine specialist should be considered

APPENDIX B

Cystic Fibrosis Carrier Screening Consent

I have been offered the option of cystic fibrosis (CF) carrier screening. Please check the appropriate options below:

_____I decline CF carrier screening

_____We decline CF carrier screening

_____I agree to have CF carrier screening (print name_____)

_____Partner agrees to have CF carrier screening (print his name_____)

Signature of Patient_____Date of birth_____Today's date_____

Signature of Partner_____Date of birth_____Today's date_____

Signature of Witness_____Today's date_____

APPENDIX C

Alpha-Fetoprotein (AFP) Screening Consent

The maternal serum alpha-fetoprotein screening test (MS-AFP) is a blood test available to any women who between 15 and 20 weeks pregnant. The American College of Obstetricians and Gynecologists recommends that every pregnant woman be offered this test. This screening test can help to identify women who may have a baby with certain birth defects such as open neural tube defects, abdominal wall defects, Down syndrome or Trisomy 18. However, this is just a screening test.

A HIGH OR LOW RESULT DOES NOT MEAN THAT THE BABY IS ABNORMAL. Only a small number of babies that screen positive on the test will have problems as discussed above. It only means that your pregnancy needs to be evaluated more closely; this could include a targeted ultrasound or an amniocentesis.

A NORMAL RESULT DOES NOT MEAN THAT THE BABY IS NORMAL. There are many kinds of problems that the test cannot detect.

The blood test consists of taking a teaspoon of blood from the patients arm. There is a small chance of bruising. There is no risk to the baby.

I have fully read and understand the above and all of my questions have been answered. I understand that this test does not guarantee a normal, healthy baby. If the screen is positive I will be offered more tests.

_____I choose TO have AFP screening.

_____I choose NOT to have AFP screening.

Patient signature_____Today's date_____

Witness_____Today's date_____

OHIO PARTNERS FOR SMOKE FREE FAMILIES
INTAKE SURVEY

Client Name: _____ **Date of Visit:** ____/____/____

Check the statement that best describes your smoking status

- ☐ I have **NEVER** smoked or have smoked less than 100 cigarettes in my lifetime.
- ☐ I stopped smoking **BEFORE** I found out I was pregnant, and I am not smoking now.
- ☐ I stopped smoking **AFTER** I found out I was pregnant, and I am not smoking now.
- ☐ I smoke some now, but I have cut down on the number of cigarettes I smoke since I found out was pregnant.
- ☐ I smoke regularly now, about the same as *before* I found out I was pregnant.

APPENDIX E

OHIO PARTNERS FOR SMOKE FREE FAMILIES: FIVE A's INTERVENTION RECORD

Data Entry Codes

Date: ___/___/___ ☐ Pregnant ☐ Postpartum Staff Initials: _____				
1. ASK	2. ADVISE	3. ASSESS	4. ASSIST	5. ARRANGE
Smoking status __ 1 Never __ 1 Former __ 1 Current	For current smokers # days smoked _____ # cigarettes per day _____ Secondhand smoke exp. Mom Yes No New baby Yes No	Topics 2A. Personalized message to quit 2B. Benefits of quitting 2C. Harms of smoking 2D. Difficulty of quitting 2E. Risks of secondhand smoke exposure	Willing to quit in 30 days 3Yes 3No Reason for not quitting:	4A. Follow-up from last visit 4B. Problem solving skills 4C. Self-help materials 4D. Provide social support 4E. Identify local social support Set quit date ___/___/___	Referral 5A. Cessation specialist-center 5B. Quit-Line Follow-up appt ___/___/___
Comments:				

Date: ___/___/___ ☐ Pregnant ☐ Postpartum Staff Initials: _____				
1. ASK	2. ADVISE	3. ASSESS	4. ASSIST	5. ARRANGE
Smoking status __ 1 Never __ 1 Former __ 1 Current Relapse since last visit? Yes No	For current smokers # days smoked _____ # cigarettes per day _____ Secondhand smoke exp. Mom Yes No New baby Yes No	Topics 2A. Personalized message to quit 2B. Benefits of quitting 2C. Harms of smoking 2D. Difficulty of quitting 2E. Risks of secondhand smoke exposure	Willing to quit in 30 days 3Yes 3No Reason for not quitting:	4A. Follow-up from last visit 4B. Problem solving skills 4C. Self-help materials 4D. Provide social support 4E. Identify local social support Set quit date ___/___/___	Referral 5A. Cessation specialist-center 5B. Quit-Line Follow-up appt ___/___/___
Comments:				

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OHIO PARTNERS FOR SMOKE FREE FAMILIES: FIVE A's INTERVENTION RECORD

Data Entry Codes

1. On the IPHIS Form complete **Section #5 (social/behavioral risk factors)** letters "**G" and "H" for every patient (if applicable)**.
2. For letter **"G":** Put a check mark in the box if the patient is exposed to second hand smoke.
3. For letter **"H":** For smokers put a check mark in the box and enter number of cigarettes/packs of cigarettes the patient smoked in day.
   For non-smokers: Do not check box and leave H fields EMPTY.
4. In the **"Local Use Only 2"** sections in the IPHIS system, select and enter **ONE** code listed in the box (the last step completed with the patient).
   For example if you reach the Assist step and problem solving is discussed with the patient enter "4B" on the local 2 line.
5. **For the Ask Section:** ***Smoking status***- If patient has never smoked, enter "1N" or If the patient stopped smoking before or after getting pregnant, enter "1F"; enter the corresponding code in the **"Local Use Only 2"** section in the IPHIS system. (For example, if patient has never smoked, "1N" would be entered in the **"Local Use Only 2"** section.) For non-smokers and former smokers please access and educate on the second hand risk exposure (where applicable) after this intervention is completed.
   If the patient is still smoking or cut down then proceed to **Advise section.**
6. **For the Advise section:** Provide at least one of the following: personalized message to quit, "2A"; benefits of quitting, "2B"; harms of smoking, "2C"; discussed difficulty of quitting with the patient, "2D"; or risks of secondhand smoke exposure,"2E".
   We want to provide Smoking Educational/Advise for all smokers with the minimum goal of getting to the **Assess section**. However, if you are unable to get to that point then enter the code in this field for the topic you spent the most time on with the patient. (For example, if the patient receives personalized message to quit, write "2A" in the Local Use Only 2 field section in the IPHIS system.)
7. **For the Assess section:** If the patient is willing to quit, then proceed to **Assist section**.
   If the patient is not willing to quit, write "3N" in the Local Use Only 2 field section in the IPHIS system.
   There are three common codes at this point in the 5As brief intervention. For example: Mary, a 27 year-old pregnant mother who never smoked; should be a "1N" non-smoker; Sally, a 30 year-old mother who stopped smoking three months prior to getting pregnant, should be a "1F" former Smoker; and Ann, a 21 year-old pregnant mother smokes a half a pack a day, should be a "3N" smokers that are not willing to quit.
   For the rare instances when you can't get to the **Assess section** then enter the **ONE** code listed in the box for the last step completed with the patient. For example, you informed the patient of the benefits of quitting, but you were interrupted and couldn't continue then enter "2B" in the Local Use Only 2 field section in the IPHIS system.
   [Please don't enter multiple codes in the Local Use Only 2 field section in the IPHIS system.]
   For smoker willing to stop, proceed to the **Assist section**.
8. **For the Assist section:** Provide at least one of the following: follow-up from last visit, "4A"; problem solving skills,"4B"; self-help materials, "4C"; provide social support with the patient,"4D"; identify local social support, "4E" then proceed to **Arrange section**.
   If you don't proceed to **Arrange section** then enter the code in this field for the topic you spent the most time discussing. (For example, if you discussed Problem solving skills, write "4B" in Local Use Only 2 field section in the IPHIS system.)
9. **For the Arrange section:** Document if the patient was referred to: cessation specialist-center is made (if available) "5A" or Quit-line is made "5B".
   Enter the appropriate code for referral source in the Local Use Only 2 field section in the IPHIS system.

Note: For the patient who remain resistant to change after several visits where Smoking Educational &/or Advise was provided or at minimum offered using a modified version of the 5As is acceptable. For instance, "You said at the last visit that you are a confirmed smoker and have no interest in quitting. Has anything occurred that might change your mind about this?" If her response is "no", enter "3N" in the Local Use Only 2 field section in the IPHIS system.