Medica

Title: ***Routine Prenatal Care***

This guideline was developed with input from specialists in obstetrics and gynecology and approved by the Medical Policy Committee.

Scope and Purpose

The purpose of this guideline is to provide evidence-based information to describe routine prenatal care in average risk pregnancies. It does not address prenatal care in high risk pregnancies.

Definitions

1. **Estimated Date of Delivery (EDD)** is the estimated date of confinement (EDC), otherwise known as due date.
2. **Fetal aneuploidy** is characterized by the presence of extra or missing chromosomes in one or more of the 23 pairs of chromosomes in the human genome. Aneuploidy occurs during cell division when the chromosomes do not separate properly between the two daughter cells. Chromosome abnormalities occur in approximately one of 160 live births and can result in defined birth defects. Most cases of aneuploidy result in spontaneous fetal demise, but others often proceed to live births. The most common aneuploidies among live births are trisomy 13 (Patau syndrome), trisomy 18 (Edward syndrome), and trisomy 21 (Down syndrome).
3. **Gestational diabetes** is a type of diabetes that develops during pregnancy (gestation). This rise in maternal blood sugar can affect the pregnancy and the health of the fetus.
4. **Preeclampsia** is a condition in pregnancy associated with elevated blood pressure, edema, and/or proteinuria. It affects all body systems. Severity is determined by factors including central nervous system symptoms (headaches, visual changes), amount of proteinuria, degree of oliguria (i.e., abnormally small amount of urine production), elevated liver enzymes, decreased platelets, and/or restricted fetal growth.
5. **Rhesus (Rh) factor** is a protein (immunoglobulin) occurring on red blood cells of up to 85% of humans. Patients found to have immunoglobulin factor D are classified Rh (D) positive; those who lack the factor are classified Rh (D) negative. If the mothers Rh factor differs from that of the fetus (e.g., mother is Rh negative; fetus is Rh positive), hemolytic disease of the newborn and/or incompatibility in blood transfusions may develop.
6. **RhoGAM** is one brand of injectable Rh immunoglobulin. RhoGAM is administered at 28 weeks gestation to women who are Rh(D) negative. It is intended to prevent maternal Rhesus (D) sensitization and resulting fetal complications when the fetus is Rh(D) positive.

Comments

Frequency of prenatal visits should be individualized. Prenatal care should be initiated in the first trimester, ideally by 10 weeks of gestation. A woman with an uncomplicated pregnancy is routinely seen every 4 weeks until 28 weeks of pregnancy. Thereafter, appointments are often every 2 weeks until 36 weeks of pregnancy, when they become weekly until delivery.

Both individual and group prenatal care models are available. Group prenatal care models are designed to improve patient education and include opportunities for social support while maintaining the risk screening and physical assessment of individual prenatal care.

Prenatal Visits

Frequency of prenatal visits can be individualized. Optimal number and frequency of visits has limited data. However, observational data suggests care can save lives.

NOTE: During the evolving COVID-19 pandemic, it may still be necessary or preferred to provide prenatal and postpartum services by phone or electronically. The American College of Obstetricians and Gynecologists (ACOG) fully supports the use of telehealth in obstetrics and gynecology.

FIRST PRENATAL VISIT

1. During the evolving COVID-19 pandemic with regard to wearing a mask, pregnant women should follow the same recommendations as the general population as outlined by the CDC. Pregnant women are at increased risk for severe disease; therefore, it is extremely important that pregnant women in high COVID-19 hospital admission level areas use masks. In low COVID-19 hospital admission level areas, pregnant women may elect to wear masks.
2. Medical history and physical is obtained, and laboratory tests are performed at the first prenatal visit. The visit can include description of anticipated care, explanation of lab tests being ordered, introduction to the members of the care team, signs or concerns to be reported to the care team, how to contact the care team, and the labor and delivery coverage schedule.
3. Individual risks to the pregnancy are identified. There normally include status of the following: prior pregnancy losses, previous gestational diabetes, previous preterm labor, and previous preeclampsia.
4. Evaluation of additional risk factors is performed, including (1) the woman's exposure to tobacco and alcohol, (2) work safety, (3) risk for domestic violence, (4) assessment for depression, (5) nutrition status, and (6) activity level.
5. Optimal dietary or supplemental doses for folic acid and iron are recommended/prescribed.
6. The World Health Organization recommends all pregnant women receive an influenza vaccine, if pregnant during influenza season.
7. The World Health Organization recommends the use of a COVID-19 vaccine (e,g, Pfizer BNT162b2; Moderna mRNA-1273).

   NOTE: There are several treatment options for COVID-19, and many are available for use in pregnancy. The National Institutes of Health (NIH) and ACOG recommend against withholding treatment options for pregnant individuals specifically because of pregnancy.
8. Importance of newborn care, immunizations, and feeding should be discussed, and the pregnant women should be encouraged to meet with a newborn care provider.
9. Pregnant women should be counseled on the benefits of breast feeding and be made aware of resources available to assist in decisions related to breast feeding.

   Note: These opportunities vary by community, provider, and care delivery systems.
10. Estimated delivery date (EDD) is determined. EDD should be clearly documented in medical records and discussed with patient. EDD can be confirmed by various methods, including:
    A. First trimester ultrasound (i.e., measurement of fetal pole to determine gestational age)
    B. If reproductive technology used for conception, date of embryo transfer and age of embryo
    C. Calculation of EDD from last menstrual period (LMP).

    NOTE: Preference is to confirm EDD with ultrasound dating.

    D. Discrepancy between ultrasound dating and LMP to determine optimal estimate of EDD.
11. Routine First Trimester laboratory testing.
    A. Centers for Disease Control recommends screening all pregnant women for:
        i. Human immunodeficiency virus (HIV)
        ii. Hepatitis B and Hepatitis C
        iii. Syphilis
        iv. Chlamydia
        v. Immunity to Rubella/Rubeola
        vi. Immunity to Herpes Varicella-Zoster
        vii. Urine screening and culture if indicated.
        viii. Patients considered at risk may also be tested for Neisseria gonorrhea.

ix. Patients considered at risk may also be tested for tuberculosis.

B. Other laboratory testing needing documentation in pregnant women include:
   i. Current assessment for cervical cancer
   ii. Blood type and Rhesus (RhD) factor
   iii. Cystic Fibrosis carrier status, as applicable
   iv. Tay-Sachs status, as applicable
   v. Sickle cell carrier status, as applicable
   vi. Thalassemia carrier status, as applicable.

12. Testing for fetal aneuploidy. All pregnant women should be offered the option of testing for aneuploidy. The choice of which test to perform is individualized based upon risk factors and discussion of indications between the patient and provider. (See Coverage Policy, *Genetic Testing: Non-Invasive Prenatal Screening (NIPS).*
    A. Noninvasive serum screening tests
       i. First trimester screening performed at 10 0/7 weeks and 13 6/7 weeks, to include ultrasound measurement to test nuchal translucency in conjunction with serum free beta- human chorionic gonadotropin (beta-hCG), or hCG and pregnancy associated plasma protein A (PAPP-A).
       ii. Quadruple Screen performed at 15 0/7 weeks and 22 6/7 weeks to assesses for aneuploidy as well as risk for neural tube defects. Serum measurements include levels of hCG, alpha fetoprotein, dimeric inhibin A, and unconjugated estriol.
       iii. Penta Screen, which includes serum tests in the quadruple screen, with the addition of hyperglycosylated hCG.
       iv. Triple screen, which includes serum hCG, alpha fetoprotein and unconjugated estriol.

       NOTE: This test has lower sensitivity for down syndrome and has largely been replaced by Quadruple Screen.

       v. Cell free fetal DNA screening. (See Coverage Policy, *Genetic Testing: Non-Invasive Prenatal Screening (NIPS).*
    B. Invasive testing
       i. Typically, invasive tests are not performed in routine low risk prenatal care. Rather, these tests are performed for definitive diagnosis of aneuploidy.
       ii. Noninvasive screening methods remain the most appropriate choice for first-line screening for most women in the general obstetric population.
          a) If a fetal structural anomaly is identified on ultrasound examination, diagnostic testing should be offered rather than cell-free fetal DNA screening. Given the potential for inaccurate results and to understand the type of trisomy for recurrence-risk counseling, a diagnostic test should be recommended for a patient who has a positive cell-free DNA test result.
          b) Parallel or simultaneous testing with multiple screening methodologies for aneuploidy is not cost-effective and should not be performed.
       iii. Invasive testing methods include chorionic villus sampling or amniocentesis. These procedures are performed to obtain a definitive karyotype following an unconfirmed diagnosis following non-invasive testing.

       Note: A discussion of the risks, benefits, and alternatives of various methods of prenatal screening and diagnostic testing, including the option of no testing, should occur with all patients.

FIRST AND SECOND TRIMESTER CARE

1. During the evolving COVID-19 pandemic with regard to wearing a mask, pregnant women should follow the same recommendations as the general population as outlined by the CDC. Pregnant women are at increased risk for severe disease; therefore, it is extremely important that pregnant women in

high COVID-19 hospital admission level areas use masks. In low COVID-19 hospital admission level areas, pregnant women may elect to wear masks.

2. Routine prenatal visits should include measuring patients' weight and blood pressure, assessment of fetal activity and fetal growth, and assessment of any developing, significant risk factors.
3. All women should be offered a second-trimester ultrasound for fetal structural defects between 18 and 22 weeks (with or without second-trimester maternal serum alpha-fetoprotein), since these may occur with or without fetal aneuploidy.
4. Testing for gestational diabetes should be performed on all pregnant women between 24 and 28 weeks gestation.

   NOTE: Early testing for diabetes may be indicated for women with obesity, relative with diabetes, previous baby born weighing more than 4000 grams/9 pounds, previous gestational diabetes in prior pregnancy, hypertension, hyperlipidemia, advanced maternal age, and/or known glucose intolerance.
5. Serum testing for anemia should be assessed at 24-28 weeks. Evidence of iron deficiency anemia can be treated with supplemental iron sulfate or elemental iron.
6. In women who are Rh(D) negative, antibody screening should be repeated at 28 weeks and RhoGAM administered, if indicated.
7. The World Health Organization recommends all pregnant women receive updated pertussis vaccine at 28 weeks.
8. The World Health Organization recommends all pregnant women receive an influenza vaccine, if pregnant during influenza season.
9. The World Health Organization recommends the use of a COVID-19 vaccine (e.g., Pfizer BNT162b2; Moderna mRNA-1273) for pregnant women when the benefits of vaccination to the pregnant women outweigh the potential risk.

THIRD TRIMESTER CARE

1. During the evolving COVID-19 pandemic with regard to wearing a mask, pregnant women should follow the same recommendations as the general population as outlined by the CDC. Pregnant women are at increased risk for severe disease; therefore, it is extremely important that pregnant women in high COVID-19 hospital admission level areas use masks. In low COVID-19 hospital admission level areas, pregnant woemn may elect to wear masks.
2. Routine prenatal visits should include measuring patients' weight, blood pressure, and assessment of fetal activity, assessment of fetal growth, assessment of fetal position, and assessment of any further significant risk factors.
3. Pregnant women should be offered the respiratory syncytial virus (RSV) vaccine and pertussis between 32 to 36 weeks gestation.
4. All pregnant women between 35 and 37 weeks gestation should be tested for the presence of group B *Streptococcus* bacteria, a bacteria normally found in the vagina and/or rectum of up to 25% of healthy, adult women. This should be collected earlier if preterm premature rupture of membranes (PPROM) or preterm labor occurs.
   A. A laboratory culture is performed after obtaining a specimen using a recto-vaginal swab.
   B. Women testing positive should receive antibiotics during labor.
5. Importance of newborn care, immunizations, and feeding should be discussed, and the pregnant women should be encouraged to meet with a newborn care provider.
6. Pregnant women should be counseled on the benefits of breast feeding and be made aware of resources available to assist in decisions related to breast feeding.

   NOTE: These opportunities vary by community, provider, and care delivery systems.
7. Patients need to gain understanding of the importance of watching for signs of labor and/or ruptured membranes and how to monitor for these indications.
8. Patients should be oriented to the on call provider system.
9. Patients should be offered a tour of the birthing facility.

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DOCUMENT HISTORY

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APPENDIX 1: Guidelines for Redating Based on Ultrasonography

Gestational Age Range*	Method of Measurement	Discrepancy Between Ultrasound Dating and LMP Dating that Supports Redating
≤13 6/7 wk • ≤8 6/7 wk • 9 0/7 wk to 13 6/7 wk	CRL	 More than 5 d More than 7 d
14 0/7 wk to 15 6/7 wk	BPD, HC, AC, FL	More than 7 d
16 0/7 wk to 21 6/7 wk	BPD, HC, AC, FL	More than 7 d
22 0/7 wk to 27 6/7 wk	BPD, HC, AC, FL	More than 10 d
28 0/7 wk and beyond§	BPD, HC, AC, FL	

Abbreviations: AC, abdominal circumference; BPD, beparietal diameter; CRL, crown-rump length; FL, femur length; HC, head circumference; LMP, last menstrual period

*Based on last menstrual period.

§Because of the risk of redating a small fetus that may be growth restricted, management decisions based on third-trimester ultrasonography alone are especially problematic and need to be guided by careful consideration of the entire clinical picture and close surveillance.

Source: American Academy of Pediatrics (AAP) and American College of Obstetricians and Gynecologists (ACOG).
Guidelines for Perinatal Care, 8th Edition. Washington, DC: ACOG. 2017.

APPENDIX 2: Routine Laboratory Testing in Pregnancy

Certain laboratory tests are performed routinely in pregnancy women in order to identify conditions that may affect the outcome of the pregnancy for the mother or fetus. The results of these tests should be reviewed in a timely manner, communicated to the woman, and documented in the medical record. Abnormal test results prompt some action on the part of the health care provider.

The Centers of Disease Control and Prevention (CDC) recommends screening all pregnant women for human immunodeficiency virus (HIV), hepatitis B, syphilis, and chlamydial infection during the first prenatal visit. In addition, the CDC recommends that, when indicated, pregnant women should be screened for *Neisseria gonorrhoeae* at the first prenatal visit. Women at high risk of tuberculosis also should be screened early in pregnancy. Other laboratory tests that are routinely performed early in pregnancy follow.

Routine Laboratory Tests Early in Pregnancy

Laboratory Test	Potential Actions for Abnormal Results
Blood Type	There is no abnormal result here. Blood type is documented for information only, should urgent blood transfusion be necessary at a later time and in order to communicate to the pediatric care provider the risk of ABO blood incompatibility in the neonatal period.
D (Rh) Type	Patients who are Rh negative are at risk of developing isoimmunization to D antigen. Further steps depend on results of the antibody screening. Weak rhesus-positive (formerly Du-positive) patients are not at risk of isoimmunization.
Antibody Screen	Any positive antibody test result requires obtaining a titer and further action by the health care provider.
Complete blood count (CBC) (hematocrit/hemoglobin for iron deficiency, or treated with supplemental iron, or both MCV and platelets)	Women with microcytic anemia should be evaluated further and retested in 3-4 weeks. Women who are of African descent, Asian, or Mediterranean should have a hemoglobin electrophoresis test performed to rule out thalassemia or sickle cell disease. Further testing may be warranted pending the results of these interventions and tests.
VDRL/RPR (nontreponemal tests)	Evaluate to confirm active syphilis status with treatment as needed. False-negative serologic test results may occur in early primary infection, and infection after the first prenatal visit is possible. False-positive nontreponemal test results can be associated with various medical conditions unrelated to syphilis; therefore, persons with a reactive VDRL or RPR test result should receive a treponemal test to confirm the diagnosis of syphilis.
Urine culture (if performed)	Treat asymptomatic bacteriuria and then do a test of cure*. If results are positive for GBS bacteriuria, document this on the patient's chart and do not perform third-trimester GBS screening but administer prophylactic antibiotics in labor instead.
Urine screening	Obtain baseline screening for urine protein content (dipstick) to assess renal status.
HBsAg	If positive, counsel patient regarding her health risks; document clearly in the chart so that the infant's physician know to treat the infant with hepatitis B vaccination and hepatitis B immune globulin.

Routine Laboratory Tests Early in Pregnancy *(continued)*

Laboratory Test	Potential Actions for Abnormal Results
HIV counseling/testing	Affirm your state's laws. If the patient is HIV positive, counsel and refer her to an infectious disease clinic or maternal-fetal medicine specialist for further management. Discuss safe-sex practices.
Chlamydia	Women found to have chlamydial infection during the first trimester should be retested within approximately 3-6 months, preferably in the third trimester.
Gonorrhea (when indicated)	Pregnant women found to have gonococcal infection during the first trimester should be retested within approximately 3-6 months, preferably in the third trimester. Uninfected pregnant women who remain at high risk for gonococcal infection also should be retested during the third trimester.
Mantoux tuberculin skin test or interferon-gamma release assay (when indicated)	Women with a positive or intermediate test result should be evaluated with a chest X-ray and review of their pertinent history to determine the need for additional evaluation.

Abbreviations: GBS, group B streptococcus; HBsAg, hepatitis B surface antigen; HIV, human immunodeficiency virus; MCG, mean corpuscular volume; RPR, rapid plasma regain; VDRL, venereal disease research laboratory.

*****In this case, test of cure refers to retesting the patient's urine after completion of antibiotic therapy to determine if the bacteria have been eliminated. Although this practice is recommended in the literature, more data are needed to determine the effectiveness of this strategy.

Source: American Academy of Pediatrics (AAP) and American College of Obstetricians and Gynecologists (ACOG).
Guidelines for Perinatal Care, 8th Edition. Washington, DC: ACOG. 2017.