

# Antepartal Nursing Assessment

## CHAPTER

# 10

*I'm 16—just got my license—so it was weird telling my friends that my mom is pregnant. I was embarrassed (and a little jealous) at first but now I kind of like the idea of having a baby sister. Mom had an amniocentesis because she is 37, so we know it's a girl. My mom has been great about including me and telling me what is going on. I've gone to a couple of her prenatal appointments so I got to hear the heartbeat and I saw the baby moving on ultrasound. I'm surprised by how interesting I am finding everything. Don't laugh, but I think I might like to be a nurse-midwife someday.*

—Krista, 16



## LEARNING OBJECTIVES

- Summarize the essential components of a prenatal history.
- Define common obstetric terminology found in the history of maternity clients.
- Identify factors related to the father's health that are generally recorded on the prenatal record.
- Describe areas that should be evaluated as part of the initial assessment of psychosocial and cultural factors related to a woman's pregnancy.
- Describe the normal physiologic changes one would expect to find when performing a physical assessment of a pregnant woman.
- Compare the methods most commonly used to determine the estimated date of birth.
- Develop an outline of the essential measurements that can be determined by clinical pelvimetry.
- Delineate the possible causes of abnormal findings during the initial or subsequent prenatal examination.
- Relate the components of the subsequent prenatal history and assessment to the progress of pregnancy.

## MEDIA LINK



[www.prenhall.com/london](http://www.prenhall.com/london)

### CD-ROM

Audio Glossary  
NCLEX-RN® Review

### Companion Website

Thinking Critically  
NCLEX-RN® Review  
Case Study: Initial Prenatal Assessment  
Care Plan Activity: Initial Assessment of Primigravida

## KEY TERMS

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How can the registered nurse (RN) caring for a pregnant woman establish an environment of comfort and open communication with each antepartal visit? Including the family in the prenatal visits, such as inviting siblings to listen to the fetal heartbeat, is one way. The RN may complete many areas of prenatal assessment. Advanced practice nurses such as certified nurse-midwives (CNMs) and nurse practitioners are able to perform complete antepartal assessments. This chapter focuses on the prenatal assessments completed initially and at subsequent visits to provide optimum care for the childbearing family.

## INITIAL CLIENT HISTORY

The course of a pregnancy depends on a number of factors, including the woman's prepregnancy health, presence of disease states, emotional status, and past healthcare. A thorough history helps determine the status of a woman's prepregnancy health.

## DEFINITION OF TERMS

The following terms are used in recording the history of maternity clients:

**Gestation:** the number of weeks of pregnancy since the first day of the last menstrual period

**Abortion:** birth that occurs before the end of 20 weeks' gestation

**Term:** the normal duration of pregnancy (38 to 42 weeks' gestation)

**Antepartum:** time between conception and the onset of labor; usually used to describe the period during which a woman is pregnant; used interchangeably with *prenatal*

**Intrapartum:** time from the onset of true labor until the birth of the infant and placenta

**Postpartum:** time from the delivery of the placenta and membranes until the woman's body returns to a nonpregnant condition

**Preterm or premature labor:** labor that occurs after 20 weeks' but before completion of 37 weeks' gestation

**Postterm labor:** labor that occurs after 42 weeks' gestation

**Gravida:** any pregnancy, regardless of duration, including present pregnancy

**Nulligravida:** a woman who has never been pregnant

**Primigravida:** a woman who is pregnant for the first time

**Multigravida:** a woman who is in her second or any subsequent pregnancy

**Para:** birth after 20 weeks' gestation regardless of whether the infant is born alive or dead

**Nullipara:** a woman who has had no births at more than 20 weeks' gestation

**Primipara:** a woman who has had one birth at more than 20 weeks' gestation, regardless of whether the infant was born alive or dead

**Multipara:** a woman who has had two or more births at more than 20 weeks' gestation

**Stillbirth:** an infant born dead after 20 weeks' gestation

The terms *gravida* and *para* are used in relation to pregnancies, not to the number of fetuses. Thus twins, triplets, and so forth count as one pregnancy and one birth.

The following examples illustrate how these terms are applied in clinical situations:

1. Jean Sanchez has one child born at 38 weeks' gestation and is pregnant for the second time. At her initial prenatal visit, the nurse indicates her obstetric history as "gravida 2 para 1 ab 0." Jean Sanchez's present pregnancy terminates at 16 weeks' gestation. She is now "gravida 2 para 1 ab 1."
2. Tracy Hopkins is pregnant for the fourth time. At home she has a child who was born at term. Her second pregnancy ended at 10 weeks' gestation. She then gave birth to twins at 35 weeks. One twin died soon after birth. At her antepartal assessment, the nurse records her obstetric history as "gravida 4 para 2 ab 1."

To provide comprehensive data, a more detailed approach is used in some settings. Using the detailed system, gravida keeps the same meaning, but the meaning of para changes because the detailed system counts each infant born rather than the number of pregnancies carried to viability (Varney, Kriebs, & Gegor, 2004). For example, triplets count as one pregnancy but three babies.

A useful acronym for remembering the system is TPAL:

**T:** number of term infants born—that is, the number of infants born after 37 weeks' gestation or more

**P:** number of preterm infants born—that is, the number of infants born after 20 weeks' but before the completion of 37 weeks' gestation

**A:** number of pregnancies ending in either spontaneous or therapeutic abortion

**L:** number of currently living children

Using this approach the nurse would have initially described Jean Sanchez (see the first example) as "gravida 2 para 1001." Following Jean's spontaneous abortion, she would be "gravida 2 para 1011." Tracy Hopkins would be described as "gravida 4 para 1212" (Figure 10-1 ●). Occasionally a fifth digit is added to indicate the number of pregnancies that ended in multiple births (Varney et al., 2004). Using the five-digit system, Tracy Hopkins would be gravida 4 para 12121.

● **FIGURE 10-1**

Name	Gravida	Term	Preterm	Abortions	Living Children
Jean Sanchez	2	1	0	1	1
Tracy Hopkins	4	1	2	1	2

The TPAL approach provides detailed information about the woman's pregnancy history.

## CLIENT PROFILE

The history is essentially a screening tool to identify factors that may place the mother or fetus at risk during the pregnancy. The following information is obtained for each pregnant woman at the first prenatal assessment:

### 1. Current pregnancy

- First day of last normal menstrual period (LMP). Is she sure of the dates or uncertain? Do her cycles normally occur every 28 days, or do her cycles tend to be longer?
- Presence of cramping, bleeding, or spotting since LMP
- Woman's opinion about the time when conception occurred and when infant is due
- Woman's attitude toward pregnancy (Is this pregnancy planned? Wanted?)
- Results of pregnancy tests, if completed
- Any discomforts since LMP such as nausea, vomiting, urinary frequency, fatigue, or breast tenderness

### 2. Past pregnancies

- Number of pregnancies
- Number of abortions, spontaneous or induced
- Number of living children
- History of previous pregnancies, length of pregnancy, length of labor and birth, type of birth (vaginal, forceps or vacuum-assisted birth, or cesarean), type of anesthesia used (if any), woman's perception of the experience, and complications (antepartal, intrapartal, and postpartal)
- Neonatal status of previous children: Apgar scores, birth weights, general development, complications, and feeding patterns (breast milk or formula)
- Loss of a child (miscarriage, elective or medically indicated abortion, stillbirth, neonatal death, relinquishment, or death after the neonatal period). What was the experience like for her? What coping skills helped? How did her partner, if involved, respond?
- If Rh negative, was medication received after birth to prevent sensitization?
- Prenatal education classes and resources (books)

3. Gynecologic history
  - Date of last Pap smear; any history of abnormal Pap smear
  - Previous infections: vaginal, cervical, tubal, or sexually transmitted
  - Previous surgery
  - Age at menarche
  - Regularity, frequency, and duration of menstrual flow
  - History of dysmenorrhea
  - Sexual history
  - Contraceptive history (If birth control pills were used, did pregnancy occur immediately following cessation of pills? If not, how long after?)
4. Current medical history
  - Weight
  - Blood type and Rh factor, if known
  - General health, including nutrition, normal dietary practices, and regular exercise program (type, frequency, and duration)
  - Any medications presently being taken (including prescription, nonprescription, homeopathic, or herbal medications) or taken since the onset of pregnancy
  - Previous or present use of alcohol, tobacco, or caffeine (Ask specifically about the amounts of alcohol, cigarettes, and caffeine [specify coffee, tea, colas, or chocolate] consumed each day.)
  - Illicit drug use or abuse (Ask about specific drugs such as cocaine, crack, and marijuana.)
  - Drug allergies and other allergies
  - Potential teratogenic insults to this pregnancy such as viral infections, medications, x-ray examinations, surgery, or cats in the home (possible source of toxoplasmosis)
  - Presence of disease conditions such as diabetes, hypertension, cardiovascular disease, renal problems, or thyroid disorder
  - Record of immunizations (especially rubella)
  - Presence of any abnormal symptoms
5. Past medical history
  - Childhood diseases
  - Past treatment for any disease condition (Any hospitalizations? History of hepatitis? Rheumatic fever? Pyelonephritis?)
  - Surgical procedures
  - Presence of bleeding disorders or tendencies (Has she received blood transfusions?)
6. Family medical history
  - Presence of diabetes, cardiovascular disease, cancer, hypertension, hematologic disorders, tuberculosis, or preeclampsia-eclampsia
  - Occurrence of multiple births
  - History of congenital diseases or deformities
  - Occurrence of cesarean births and cause, if known
7. Religious, spiritual, and cultural history
  - Does the woman wish to specify a religious preference on her chart? Does she have any religious beliefs or practices that might influence her healthcare or that of her child, such as prohibition against receiving blood products, dietary considerations, or circumcision rites?
  - What practices are important to maintain her spiritual well-being?
  - Might practices in her culture or that of her partner influence her care or that of her child?
8. Occupational history
  - Occupation
  - Physical demands (Does she stand all day, or are there opportunities to sit and elevate her legs? Any heavy lifting?)
  - Exposure to chemicals or other harmful substances
  - Opportunity for regular meals and breaks for nutritious snacks
  - Provision for maternity or family leave
9. Partner's history
  - Presence of genetic conditions or diseases
  - Age
  - Significant health problems
  - Previous or present alcohol intake, drug use, or tobacco use
  - Blood type and Rh factor
  - Occupation
  - Educational level; methods by which he learns best
  - Attitude toward the pregnancy
10. Personal information about the woman
  - Age
  - Educational level; methods by which she learns best
  - Race or ethnic group (to identify need for prenatal genetic screening and racially or ethnically related risk factors)
  - Housing; stability of living conditions
  - Economic level
  - Acceptance of pregnancy
  - Any history of emotional or physical deprivation or abuse of herself or children or any abuse in her current relationship (Ask specifically whether she has been hit, slapped, kicked, or hurt within the past year or since she has been pregnant. Is she afraid of her partner or anyone else? If yes, of whom is she afraid? [It is important to ask only when she is alone.]
  - History of emotional problems
  - Support systems available to her

- Personal preferences about the birth (expectations of both the woman and her partner, presence of others, and so on) (For more information see Chapter 8. ∞)
- Plans for care of child following birth
- Feeding preference for the baby (breast milk or formula?)

## OBTAINING DATA

A questionnaire is used in many instances to obtain information. The woman should complete the questionnaire in a quiet place with a minimum of distractions. The nurse can get further information in an interview, which allows the pregnant woman to clarify her responses to questions and gives the nurse and client the opportunity to develop rapport.

The partner can be encouraged to attend the prenatal examinations. The partner is often able to contribute to the history and may use the opportunity to ask questions or express concerns.

## HIGH-RISK SCREENING

**Risk factors** are any findings that suggest the pregnancy may have a negative outcome, for either the woman or her unborn child. Screening for risk factors is an important part of the prenatal assessment. Many risk factors can be identified during the initial assessment; others may be detected during subsequent prenatal visits. It is important to identify high-risk pregnancies early so that appropriate interventions can be started promptly. Not all risk factors threaten a pregnancy equally; thus, many agencies use a scoring sheet to determine the degree of risk. Information must be updated throughout pregnancy as necessary. Any pregnancy may begin as low risk and change to high risk because of complications.

Table 10–1 identifies the major risk factors currently recognized. The table also identifies maternal and fetal or newborn implications if the risk is present in the pregnancy.

## INITIAL PRENATAL ASSESSMENT

The prenatal assessment focuses on the woman holistically by considering physical, cultural, and psychosocial factors that influence her health. The establishment of the nurse-client relationship is a chance to develop an atmosphere conducive to interviewing, support, and education. Because many women are excited and anxious at the first antepartal visit, the initial psychosocial-cultural assessment is general.

As part of the initial psychosocial-cultural assessment, discuss with the woman any religious or spiritual, cultural, or socioeconomic factors that influence the woman's expectations of the childbearing experience. It is especially helpful to be familiar with common practices of the members of various religious and cultural groups who reside in the community.

After obtaining the history, prepare the woman for the physical examination. The physical examination begins with assessment of vital signs; then the woman's body is examined. The pelvic examination is performed last.

Before the examination the woman should provide a clean urine specimen. When her bladder is empty, the woman is more comfortable during the pelvic examination and the examiner can palpate the pelvic organs more easily. After the woman empties her bladder, the nurse should ask her to disrobe and give her a gown and sheet or some other protective covering.

Increasing numbers of nurses, such as CNMs, nurse practitioners, and other nurses in advanced practice, are prepared to perform complete physical examinations. The nurse who is not an advanced practitioner assesses the woman's vital signs, explains the procedures to allay apprehension, positions her for examination, and assists the examiner as necessary.

## NURSING PRACTICE

In a clinic or office setting, gowns and goggles for the healthcare provider are usually not necessary because splashing of body fluids is unlikely. Gloves are worn for procedures that involve contact with body fluids such as drawing blood for lab work, handling urine specimens, and conducting pelvic examinations.

Thoroughness and a systematic procedure are the most important considerations when performing the physical portion of an antepartal examination. See "Assessment Guide: Initial Prenatal Assessment." To promote completeness, the assessment guide is organized in three columns that address the areas to be assessed (and normal findings), the variations or alterations that may be observed, and nursing responses to the data. Certain organs and systems are assessed concurrently with others during the physical portion of the examination.

Nursing interventions based on assessment of the normal physical and psychosocial changes of pregnancy, evaluation of the cultural influences associated with pregnancy, and mutually defined client teaching and counseling needs are discussed further in Chapter 11. ∞

## THINKING CRITICALLY

Karen Blade, a 23-year-old, G1P0, is 10 weeks pregnant when she sees you for her first prenatal examination. She has been experiencing some mild nausea and fatigue but otherwise is feeling well. She asks you about continuing with her routine exercises (walking 3 miles a day and lifting light weights). She also asks about using the heated pool and a hot tub. What should you tell her? 🗣️

**TABLE 10-1** ❁ Prenatal High-Risk Factors

Factor	Maternal Implications	Fetal or Neonatal Implications
<b>Social and Personal</b>		
Low income level and/or low educational level	Poor antenatal care Poor nutrition ↑ risk preeclampsia	Low birth weight Intrauterine growth restriction (IUGR)
Poor diet	Inadequate nutrition ↑ risk anemia ↑ risk of preeclampsia	Fetal malnutrition Prematurity
Living at high altitude	↑ hemoglobin	Prematurity IUGR ↑ hemoglobin (polycythemia)
Multiparity >3	↑ risk antepartum or postpartum hemorrhage	Anemia Fetal death
Weight <45.5 kg (100 lb)	Poor nutrition Cephalopelvic disproportion Prolonged labor	IUGR Hypoxia associated with difficult labor and birth
Weight >91 kg (200 lb)	↑ risk hypertension ↑ risk cephalopelvic disproportion ↑ risk diabetes	↓ fetal nutrition ↑ risk macrosomia
Age < 16	Poor nutrition Poor antenatal care ↑ risk preeclampsia ↑ risk cephalopelvic disproportion	Low birth weight ↑ fetal demise
Age > 35	↑ risk preeclampsia ↑ risk cesarean birth	↑ risk congenital anomalies ↑ chromosomal aberrations
Smoking one pack/day or more	↑ risk hypertension  ↑ risk cancer	↓ placental perfusion → ↓ O <sub>2</sub> and nutrients available Low birth weight IUGR Preterm birth
Use of addicting drugs	↑ risk poor nutrition ↑ risk of infection with IV drugs ↑ risk HIV, hepatitis C	↑ risk congenital anomalies ↑ risk low birth weight Neonatal withdrawal Lower serum bilirubin
Excessive alcohol consumption	↑ risk poor nutrition Possible hepatic effects with long-term consumption	↑ risk fetal alcohol syndrome
<b>Preexisting Medical Disorders</b>		
Diabetes mellitus	↑ risk preeclampsia, hypertension Episodes of hypoglycemia and hyperglycemia ↑ risk cesarean birth	Low birth weight Macrosomia Neonatal hypoglycemia ↑ risk congenital anomalies ↑ risk respiratory distress syndrome
Cardiac disease	Cardiac decompensation Further strain on mother's body ↑ maternal death rate	↑ risk fetal demise ↑ prenatal mortality
Anemia: hemoglobin <9 g/dL (white) <29% hematocrit (white) <8.2 g/dL hemoglobin (black) <26% hematocrit (black)	Iron-deficiency anemia Low energy level Decreased oxygen-carrying capacity	Fetal death Prematurity Low birth weight
Hypertension	↑ vasospasm ↑ risk central nervous system irritability → convulsions ↑ risk cerebrovascular accident ↑ risk renal damage	↓ placental perfusion → low birth weight Preterm birth

**TABLE 10-1** ❖ **Prenatal High-Risk Factors—continued**

Factor	Maternal Implications	Fetal or Neonatal Implications
<b>Preexisting Medical Disorders—continued</b>		
Thyroid disorder	↑ infertility	↑ spontaneous abortion
Hypothyroidism	↓ basal metabolic rate, goiter, myxedema	↑ risk congenital goiter
Hyperthyroidism	↑ risk postpartum hemorrhage ↑ risk preeclampsia Danger of thyroid storm	Mental retardation → cretinism ↑ incidence congenital anomalies ↑ incidence preterm birth ↑ tendency to thyrotoxicosis
Renal disease (moderate to severe)	↑ risk renal failure	↑ risk IUGR ↑ risk preterm birth
Diethylstilbestrol (DES) exposure	↑ infertility, spontaneous abortion ↑ cervical incompetence	↑ spontaneous abortion ↑ risk preterm birth
<b>Obstetric Considerations</b>		
<i>Previous Pregnancy</i>		
Stillborn	↑ emotional or psychologic distress	↑ risk IUGR ↑ risk preterm birth
Habitual abortion	↑ emotional or psychologic distress ↑ possibility diagnostic workup	↑ risk abortion
Cesarean birth	↑ possibility repeat cesarean birth	↑ risk preterm birth ↑ risk respiratory distress
Rh or blood group sensitization	↑ financial expenditure for testing	Hydrops fetalis Icterus gravis Neonatal anemia Kernicterus Hypoglycemia
Large baby	↑ risk cesarean birth ↑ risk gestational diabetes	Birth injury Hypoglycemia
<i>Current Pregnancy</i>		
Rubella (first trimester)		Congenital heart disease Cataracts Nerve deafness Bone lesions Prolonged virus shedding
Rubella (second trimester)		Hepatitis Thrombocytopenia
Cytomegalovirus		IUGR Encephalopathy
Herpes virus type 2	Severe discomfort Concern about possibility of cesarean birth, fetal infection	Neonatal herpes virus type 2 2% hepatitis with jaundice Neurologic abnormalities
Syphilis	↑ incidence abortion	↑ fetal demise Congenital syphilis
Abruptio placenta and placenta previa	↑ risk hemorrhage Bed rest Extended hospitalization	Fetal or neonatal anemia Intrauterine hemorrhage ↑ fetal demise
Preeclampsia or eclampsia	See hypertension	↓ placental perfusion → low birth weight
Multiple gestation	↑ risk postpartum hemorrhage ↑ risk preterm labor	↑ risk preterm birth ↑ risk fetal demise
Elevated hematocrit >41% (white) >38% (black)	Increased viscosity of blood	Fetal death rate 5 times normal rate
Spontaneous premature rupture of membranes	↑ uterine infection	↑ risk preterm birth ↑ fetal demise

## ASSESSMENT GUIDE

## INITIAL PRENATAL ASSESSMENT

PHYSICAL ASSESSMENT/ NORMAL FINDINGS	ALTERATIONS AND POSSIBLE CAUSES*	NURSING RESPONSES TO DATA†
<b>Vital Signs</b>		
<p><b>Blood pressure (BP):</b> <math>\leq</math> 135/85 mm Hg</p> <p><b>Pulse:</b> 60–90 beats/min; rate may increase 10 beats/min during pregnancy</p> <p><b>Respirations:</b> 16–24 breaths/min (or pulse rate divided by four); pregnancy may induce a degree of hyperventilation; thoracic breathing predominant</p> <p><b>Temperature:</b> 36.2–37.6°C (97–99.6°F)</p>	<p>High BP (essential hypertension; renal disease; pregestational hypertension, apprehension or anxiety associated with pregnancy diagnosis, exam, or other crises; preeclampsia if initial assessment not done until after 20 weeks' gestation)</p> <p>Increased pulse rate (excitement or anxiety, cardiac disorders)</p> <p>Marked tachypnea or abnormal patterns</p> <p>Elevated temperature (infection)</p>	<p>BP &gt; 140/90 requires immediate consideration; establish woman's BP; refer to physician if necessary. Assess woman's knowledge about high BP; counsel on self-care and medical management.</p> <p>Count for 1 full minute; note irregularities.</p> <p>Assess for respiratory disease.</p> <p>Assess for infection process or disease state if temperature is elevated; refer to physician or CNM.</p>
<b>Weight</b>		
Depends on body build	Weight < 45 kg (100 lb) or > 91 kg (200 lb); rapid, sudden weight gain (preeclampsia)	Evaluate need for nutritional counseling; obtain information on eating habits, cooking practices, foods regularly eaten, income limitations, need for food supplements, pica and other abnormal food habits. Note initial weight to establish baseline for weight gain throughout pregnancy.
<b>Skin</b>		
<p><b>Color:</b> Consistent with racial background; pink nail beds</p> <p><b>Condition:</b> Absence of edema (slight edema of lower extremities is normal during pregnancy)</p> <p><b>Lesions:</b> Absence of lesions</p> <p>Spider nevi common in pregnancy</p> <p><b>Moles</b></p> <p><b>Pigmentation:</b> Pigmentation changes of pregnancy include linea nigra, striae gravidarum, melasma</p> <p>Café-au-lait spots</p>	<p>Pallor (anemia); bronze, yellow (hepatic disease; other causes of jaundice)</p> <p>Bluish, reddish, mottled; dusky appearance or pallor of palms and nail beds in dark skinned women (anemia)</p> <p>Edema (preeclampsia); rashes, dermatitis (allergic response)</p> <p>Ulceration (varicose veins, decreased circulation)</p> <p>Petechiae, multiple bruises, ecchymosis (hemorrhagic disorders; abuse)</p> <p>Change in size or color (carcinoma)</p> <p>Six or more (Albright syndrome or neurofibromatosis)</p>	<p>The following tests should be performed: complete blood count (CBC), bilirubin level, urinalysis, and blood urea nitrogen (BUN).</p> <p>If abnormal, refer to physician.</p> <p>Counsel on relief measures for slight edema. Initiate preeclampsia assessment; refer to physician.</p> <p>Further assess circulatory status; refer to physician if lesion is severe.</p> <p>Evaluate for bleeding or clotting disorder. Provide opportunities to discuss abuse if suspected.</p> <p>Refer to physician.</p> <p>Assure woman that these are normal manifestations of pregnancy and explain the physiologic basis for the changes.</p> <p>Consult with physician.</p>
<b>Nose</b>		
<p><b>Character of mucosa:</b> Redder than oral mucosa; in pregnancy nasal mucosa is edematous in response to increased estrogen, resulting in nasal stuffiness (rhinitis of pregnancy) and nosebleeds</p>	Olfactory loss (first cranial nerve deficit)	Counsel woman about possible relief measures for nasal stuffiness and nosebleeds (epistaxis); refer to physician for olfactory loss.
*Possible causes of alterations are identified in parentheses.		†This column provides guidelines for further assessment and initial nursing intervention.

ASSESSMENT GUIDE—continued		
INITIAL PRENATAL ASSESSMENT		
PHYSICAL ASSESSMENT/ NORMAL FINDINGS	ALTERATIONS AND POSSIBLE CAUSES*	NURSING RESPONSES TO DATA†
<b>Mouth</b>		
May note hypertrophy of gingival tissue because of estrogen	Edema, inflammation (infection); pale in color (anemia)	Assess hematocrit for anemia; counsel regarding dental hygiene habits. Refer to physician or dentist if necessary. Routine dental care appropriate during pregnancy (no x-ray studies, no nitrous anesthesia).
<b>Neck</b>		
<b>Nodes:</b> Small, mobile, nontender nodes  <b>Thyroid:</b> Small, smooth, lateral lobes palpable on either side of trachea; slight hyperplasia by third month of pregnancy	Tender, hard, fixed, or prominent nodes (infection, carcinoma)  Enlargement or nodule tenderness (hyperthyroidism)	Examine for local infection; refer to physician.  Listen over thyroid for bruits, which may indicate hyperthyroidism. Question woman about dietary habits (iodine intake). Ascertain history of thyroid problems; refer to physician.
<b>Chest and Lungs</b>		
<b>Chest:</b> Symmetric, elliptic, smaller anteroposterior (AP) than transverse diameter  <b>Ribs:</b> Slope downward from nipple line  <b>Inspection and palpation:</b> No retraction or bulging of intercostal spaces (ICS) during inspiration or expiration; symmetric expansion. Tactile fremitus  <b>Percussion:</b> Bilateral symmetry in tone  Low-pitched resonance of moderate intensity  <b>Auscultation:</b> Upper lobes—bronchovesicular sounds above sternum and scapulas; equal expiratory and inspiratory phases  <b>Remainder of chest:</b> Vesicular breath sounds heard; inspiratory phase longer (3:1)	Increased AP diameter, funnel chest, pigeon chest (emphysema, asthma, chronic obstructive pulmonary disease [COPD])  More horizontal (COPD) Angular bumps Rachitic rosary (vitamin C deficiency)  ICS retractions with inspiration, bulging with expiration; unequal expansion (respiratory disease)  Tachypnea, hyperpnea, Cheyne-Stokes respirations (respiratory disease)  Flatness of percussion, which may be affected by chest wall thickness  High diaphragm (atelectasis or paralysis), pleural effusion  Abnormal if heard over any other area of chest  Rales, rhonchi, wheezes; pleural friction rub; absence of breath sounds; bronchophony, egophony, whispered pectoriloquy	Evaluate for emphysema, asthma, pulmonary disease (COPD).  Evaluate for COPD. Evaluate for fractures. Consult physician. Consult nutritionist. Do thorough initial assessment. Refer to physician.  Refer to physician.  Evaluate for pleural effusions, consolidations, or tumor. Refer to physician.  Refer to physician.  Refer to physician.
<b>Breasts</b>		
Supple; symmetric in size and contour; darker pigmentation of nipple and areola; may have supernumerary nipples, usually 5–6 cm below normal nipple line  Axillary nodes unpalpable or pellet sized	“Pigskin” or orange-peel appearance, nipple retractions, swelling, hardness (carcinoma); redness, heat, tenderness, cracked or fissured nipple (infection)  Tenderness, enlargement, hard node (carcinoma); may be visible bump (infection)	Encourage monthly self-examination; instruct woman how to examine her own breasts.  Refer to physician if evidence of inflammation.
*Possible causes of alterations are identified in parentheses.		†This column provides guidelines for further assessment and initial nursing intervention.

(continued)

## ASSESSMENT GUIDE—continued

## INITIAL PRENATAL ASSESSMENT

PHYSICAL ASSESSMENT/ NORMAL FINDINGS	ALTERATIONS AND POSSIBLE CAUSES*	NURSING RESPONSES TO DATA†
<b>Breasts (continued)</b>		
<p><b>Pregnancy changes:</b></p> <ol style="list-style-type: none"> <li>1. Size increase noted primarily in first 20 weeks.</li> <li>2. Become nodular.</li> <li>3. Tingling sensation may be felt during first and third trimester; woman may report feeling of heaviness.</li> <li>4. Pigmentation of nipples and areolae darkens.</li> <li>5. Superficial veins dilate and become more prominent.</li> <li>6. Striae seen in multiparas.</li> <li>7. Tubercles of Montgomery enlarge.</li> <li>8. Colostrum may be present after 12th week.</li> <li>9. Secondary areola appears at 20 weeks, characterized by series of washed-out spots surrounding primary areola.</li> <li>10. Breasts less firm, old striae may be present in multiparas.</li> </ol>		<p>Discuss normalcy of changes and their meaning with the woman. Teach and/or institute appropriate relief measures. Encourage use of supportive, well-fitting brassiere.</p>
<b>Heart</b>		
<p>Normal rate, rhythm, and heart sounds</p> <p><b>Pregnancy changes:</b></p> <ol style="list-style-type: none"> <li>1. Palpitations may occur due to sympathetic nervous system disturbance.</li> <li>2. Short systolic murmurs that increase in held expiration are normal due to increased volume.</li> </ol>	<p>Enlargement, thrills, thrusts, gross irregularity or skipped beats, gallop rhythm or extra sounds (cardiac disease)</p>	<p>Complete an initial assessment. Explain normalcy of pregnancy-induced changes. Refer to physician if indicated.</p>
<b>Abdomen</b>		
<p>Normal appearance, skin texture, and hair distribution; liver nonpalpable; abdomen nontender</p> <p><b>Pregnancy changes:</b></p> <ol style="list-style-type: none"> <li>1. Purple striae may be present (or silver striae on a multipara) as well as linea nigra.</li> <li>2. Diastasis of the rectus muscles late in pregnancy.</li> <li>3. Size: Flat or rotund abdomen; progressive enlargement of uterus due to pregnancy. <ul style="list-style-type: none"> <li>10–12 weeks: Fundus slightly above symphysis pubis.</li> <li>16 weeks: Fundus halfway between symphysis and umbilicus.</li> <li>20–22 weeks: Fundus at umbilicus.</li> <li>28 weeks: Fundus three finger breadths above umbilicus.</li> <li>36 weeks: Fundus just below ensiform cartilage.</li> </ul> </li> <li>4. Fetal heart rate: 110–160 beats/min may be heard with Doppler at 10–12 weeks' gestation; may be heard with fetoscope at 17–20 weeks.</li> </ol>	<p>Muscle guarding (anxiety, acute tenderness); tenderness, mass (ectopic pregnancy, inflammation, carcinoma)</p> <p>Size of uterus inconsistent with length of gestation (intrauterine growth restriction [IUGR], multiple pregnancy, fetal demise, hydatidiform mole)</p> <p>Failure to hear fetal heartbeat with Doppler (fetal demise, hydatidiform mole)</p>	<p>Assure woman of normalcy of diastasis. Provide initial information about appropriate prenatal and postpartum exercises. Evaluate woman's anxiety level. Refer to physician if indicated.</p> <p>Reassess menstrual history regarding pregnancy dating. Evaluate increase in size using McDonald's method. Use ultrasound to establish diagnosis.</p> <p>Refer to physician. Administer pregnancy tests. Use ultrasound to establish diagnosis.</p>
*Possible causes of alterations are identified in parentheses.		†This column provides guidelines for further assessment and initial nursing intervention.

ASSESSMENT GUIDE—continued		
INITIAL PRENATAL ASSESSMENT		
PHYSICAL ASSESSMENT/ NORMAL FINDINGS	ALTERATIONS AND POSSIBLE CAUSES*	NURSING RESPONSES TO DATA†
<b>Abdomen (continued)</b>		
5. Fetal movement palpable by a trained examiner after the 18th week. 6. Ballottement: During fourth to fifth month fetus rises and then rebounds to original position when uterus is tapped sharply.	Failure to feel fetal movements after 20 weeks' gestation (fetal demise, hydatidiform mole) No ballottement (oligohydramnios)	Refer to physician for evaluation of fetal status.  Refer to physician for evaluation of fetal status.
<b>Extremities</b>		
Skin warm, pulses palpable, full range of motion; may be some edema of hands and ankles in late pregnancy; varicose veins may become more pronounced; palmar erythema may be present	Unpalpable or diminished pulses (arterial insufficiency); marked edema (preeclampsia)	Evaluate for other symptoms of heart disease; initiate follow-up if woman mentions that her rings feel tight. Discuss prevention and self-treatment measures for varicose veins; refer to physician if indicated.
<b>Spine</b>		
<b>Normal spinal curves:</b> Concave cervical, convex thoracic, concave lumbar  In pregnancy, lumbar spinal curve may be accentuated  Shoulders and iliac crests should be even	Abnormal spinal curves; flatness, kyphosis, lordosis  Backache  Uneven shoulders and iliac crests (scoliosis)	Refer to physician for assessment of cephalopelvic disproportion (CPD).  May have implications for administration of spinal anesthetics; see Chapter 20 for relief measures. ∞  Refer very young women to a physician; discuss back-stretching exercise with older women.
<b>Reflexes</b>		
Normal and symmetric	Hyperactivity, clonus (preeclampsia)	Evaluate for other symptoms of preeclampsia.
<b>Pelvic Area</b>		
<b>External female genitals:</b> Normally formed with female hair distribution; in multiparas, labia majora loose and pigmented; urinary and vaginal orifices visible and appropriately located <b>Vagina:</b> Pink or dark pink, vaginal discharge odorless, nonirritating; in multiparas, vaginal folds smooth and flattened; may have episiotomy scar <b>Cervix:</b> Pink color; os closed except in multiparas, in whom os admits fingertip  <b>Pregnancy changes:</b> 1–4 weeks' gestation: Enlargement in anteroposterior diameter 4–6 weeks' gestation: Softening of cervix (Goodell's sign), softening of isthmus of uterus (Hegar's sign); cervix takes on bluish coloring (Chadwick's sign)	Lesions, hematomas, varicosities, inflammation of Bartholin's glands; clitoral hypertrophy (masculinization)  Abnormal discharge associated with vaginal infections  Eversion, reddish erosion, nabothian or retention cysts, cervical polyp; granular area that bleeds (carcinoma of cervix); lesions (herpes, human papilloma virus [HPV]); presence of string or plastic tip from cervix (intrauterine device [IUD] in uterus)  Absence of Goodell's sign (inflammatory conditions, carcinoma)	Explain pelvic examination procedure. Encourage woman to minimize her discomfort by relaxing her hips. Provide privacy.  Obtain vaginal smear. Provide understandable verbal and written instructions about treatment for woman and partner, if indicated.  Provide woman with a hand mirror and identify genital structures for her; encourage her to view her cervix if she wishes. Refer to physician if indicated. Advise woman of potential serious risks of leaving an IUD in place during pregnancy; refer to physician for removal.  Refer to physician.
*Possible causes of alterations are identified in parentheses.		†This column provides guidelines for further assessment and initial nursing intervention.

(continued)

## ASSESSMENT GUIDE—continued

INITIAL PRENATAL ASSESSMENT		
PHYSICAL ASSESSMENT/ NORMAL FINDINGS	ALTERATIONS AND POSSIBLE CAUSES*	NURSING RESPONSES TO DATA†
<b>Pelvic Area (continued)</b>		
<p>8–12 weeks' gestation: Vagina and cervix appear bluish violet in color (Chadwick's sign)</p> <p><b>Uterus:</b> Pear shaped, mobile; smooth surface</p> <p><b>Ovaries:</b> Small, walnut shaped, nontender (ovaries and Fallopian tubes are located in the adnexal areas)</p>	<p>Fixed (pelvic inflammatory disease [PID]); nodular surface (fibromas)</p> <p>Pain on movement of cervix (PID); enlarged or nodular ovaries (cyst, tumor, tubal pregnancy, corpus luteum of pregnancy)</p>	<p>Refer to physician.</p> <p>Evaluate adnexal areas; refer to physician.</p>
<b>Pelvic Measurements</b>		
<p><b>Internal measurements:</b></p> <ol style="list-style-type: none"> <li>1. Diagonal conjugate at least 11.5 cm (Figure 10-5)</li> <li>2. Obstetric conjugate estimated by subtracting 1.5–2 cm from diagonal conjugate</li> <li>3. Inclination of sacrum</li> <li>4. Motility of coccyx; external intertuberosity diameter &gt; 8 cm</li> </ol>	<p>Measurement below normal</p> <p>Disproportion of pubic arch</p> <p>Abnormal curvature of sacrum</p> <p>Fixed or malposition of coccyx</p>	<p>Vaginal birth may not be possible if deviations are present.</p>
<b>Anus and Rectum</b>		
<p>No lumps, rashes, excoriation, tenderness; cervix may be felt through rectal wall</p>	<p>Hemorrhoids, rectal prolapse; nodular lesion (carcinoma)</p>	<p>Counsel about appropriate prevention and relief measures; refer to physician for further evaluation.</p>
<b>Laboratory Evaluation</b>		
<p><b>Hemoglobin:</b> 12–16 g/dL; women residing in areas of high altitude may have higher levels of hemoglobin</p> <p><b>ABO and Rh typing:</b> Normal distribution of blood types</p> <p><b>Complete blood count (CBC)</b></p> <p><b>Hematocrit:</b> 38%–47% physiologic anemia (pseudoanemia) may occur</p> <p><b>Red blood cells (RBC):</b> 4.2–5.4 million/microliter</p> <p><b>White blood cells (WBC):</b> 5000–12,000/microliter</p> <p><b>Differential</b></p> <p>Neutrophils: 40%–60%</p> <p>Bands: up to 5%</p> <p>Eosinophils: 1%–3%</p> <p>Basophils: up to 1%</p> <p>Lymphocytes: 20%–40%</p> <p>Monocytes: 4%–8%</p>	<p>&lt;11 g/dL (anemia)</p> <p>Rh negative</p> <p>Marked anemia or blood dyscrasias</p> <p>Presence of infection; may be elevated in pregnancy and with labor</p>	<p>Note: Wear gloves when drawing blood. Hemoglobin &lt; 12 g/dL requires nutritional counseling; &lt; 11 g/dL requires iron supplementation.</p> <p>If Rh negative, check for presence of anti-Rh antibodies. Check partner's blood type; if partner is Rh positive, discuss with woman the need for antibody titers during pregnancy, management during the intrapartum period, and possible need for Rh immune globulin. (See Chapter 15 ∞).</p> <p>Perform CBC and Schilling differential cell count.</p> <p>Evaluate for other signs of infection.</p>
*Possible causes of alterations are identified in parentheses.		†This column provides guidelines for further assessment and initial nursing intervention.

ASSESSMENT GUIDE—continued		
INITIAL PRENATAL ASSESSMENT		
PHYSICAL ASSESSMENT/ NORMAL FINDINGS	ALTERATIONS AND POSSIBLE CAUSES*	NURSING RESPONSES TO DATA†
<b>Laboratory Evaluation (continued)</b>		
<p><b>Syphilis tests:</b> Serologic tests for syphilis (STS), complement fixation test, venereal disease research laboratory (VDRL) test—nonreactive</p> <p><b>Gonorrhea culture:</b> Negative</p> <p><b>Urinalysis (u/a):</b> Normal color, specific gravity; pH 4.6–8.0</p> <p>Negative for protein, red blood cells, white blood cells, casts</p> <p><b>Glucose:</b> Negative (small degree of glycosuria may occur in pregnancy)</p> <p><b>Rubella titer:</b> Hemagglutination-inhibition (HAI) test—1:10 or above indicates woman is immune</p> <p><b>Hepatitis B screen</b> for hepatitis B surface antigen (HbsAg); negative</p> <p><b>HIV screen:</b> Offered to all women; encouraged for those at risk; negative</p> <p><b>Illicit drug screen:</b> Offered to all women; negative</p> <p><b>Sickle-cell screen for clients of African descent:</b> Negative</p> <p><b>Pap smear:</b> Negative</p>	<p>Positive reaction STS—tests may have 25%–45% incidence of biologic false-positive results; false results may occur in individuals who have acute viral or bacterial infections, hypersensitivity reactions, recent vaccinations, collagen disease, malaria, or tuberculosis</p> <p>Positive</p> <p>Abnormal color (porphyria, hemoglobinuria, bilirubinemia); alkaline urine (metabolic alkalemia, <i>Proteus</i> infection, old specimen)</p> <p>Positive findings (contaminated specimen, kidney disease)</p> <p>Glycosuria (low renal threshold for glucose, diabetes mellitus)</p> <p>HAI titer &lt; 1:10</p> <p>Positive</p> <p>Positive</p> <p>Positive</p> <p>Positive; test results would include a description of cells</p> <p>Test results that show atypical cells</p>	<p>Positive results may be confirmed with the fluorescent treponemal antibody-absorption (FTA-ABS) test; all tests for syphilis give positive results in the secondary stage of the disease; antibiotic tests may cause negative test results.</p> <p>Refer for treatment.</p> <p>Repeat u/a; refer to physician.</p> <p>Repeat u/a; refer to physician.</p> <p>Assess blood glucose level; test urine for ketones.</p> <p>Immunization will be given on postpartum or within 6 weeks after childbirth. Instruct woman whose titers are &lt; 1:10 to avoid children who have rubella.</p> <p>If negative, consider referral for hepatitis B vaccine. If positive, refer to physician. Infants born to women who test positive are given hepatitis B immune globulin soon after birth followed by first dose of hepatitis B vaccine.</p> <p>Refer to physician.</p> <p>Refer to physician.</p> <p>Refer to physician.</p> <p>Refer to physician. Discuss with the woman the meaning of the findings and the importance of follow-up.</p>
CULTURAL ASSESSMENT	VARIATIONS TO CONSIDER*	NURSING RESPONSES TO DATA†
<p>Determine the woman's fluency in English.</p> <p>Ask the woman how she prefers to be addressed.</p> <p>Determine customs and practices regarding prenatal care:</p> <ul style="list-style-type: none"> <li>■ Ask the woman if there are certain practices she expects to follow when she is pregnant.</li> <li>■ Ask the woman if there are any activities she cannot do while she is pregnant.</li> </ul>	<p>Woman may be fluent in a language other than English.</p> <p>Some women prefer informality; others prefer to use titles.</p> <p>Practices are influenced by individual preference, cultural expectations, or religious beliefs.</p> <p>Some women believe that they should perform certain acts related to sleep, activity, or clothing.</p> <p>Some women have restrictions or taboos they follow related to work, activity, sexual, environmental, or emotional factors.</p>	<p>Work with a knowledgeable translator to provide information and answer questions.</p> <p>Address the woman according to her preference. Maintain formality in introducing oneself if that seems preferred.</p> <p>Honor a woman's practices and provide for specific preferences unless they are contraindicated because of safety.</p> <p>Have information printed in the language of different cultural groups that live in the area.</p>
*Possible causes of alterations are identified in parentheses.		†This column provides guidelines for further assessment and initial nursing intervention.

(continued)


**ASSESSMENT GUIDE—continued**
**INITIAL PRENATAL ASSESSMENT**

<b>CULTURAL ASSESSMENT</b>	<b>VARIATIONS TO CONSIDER*</b>	<b>NURSING RESPONSES TO DATA<sup>†</sup></b>
<ul style="list-style-type: none"> <li>■ Ask the woman whether there are certain foods she is expected to eat or avoid while she is pregnant. Determine whether she has lactose intolerance.</li> <li>■ Ask the woman whether the gender of her caregiver is of concern.</li> <li>■ Ask the woman about the degree of involvement in her pregnancy that she expects or wants from her support person, mother, and other significant people.</li> <li>■ Ask the woman about her sources of support and counseling during pregnancy.</li> </ul>	<p>Foods are an important cultural factor. Some women may have certain foods they must eat or avoid; many women have lactose intolerance and have difficulty consuming sufficient calcium.</p> <p>Some women are comfortable only with a female caregiver.</p> <p>A woman may not want her partner involved in the pregnancy. For some the role falls to the woman's mother or a female relative or friend.</p> <p>Some women seek advice from a family member, <i>curandera</i>, tribal healer, and so forth.</p>	<p>Respect the woman's food preferences, help her plan an adequate prenatal diet within the framework of her preferences, and refer to a dietitian if necessary.</p> <p>Arrange for a female caregiver if it is the woman's preference.</p> <p>Respect the woman's preferences about her partner or husband's involvement; avoid imposing personal values or expectations.</p> <p>Respect and honor the woman's sources of support.</p>
<b>Psychologic Status</b>		
Excitement and/or apprehension, ambivalence	<p>Marked anxiety (fear of pregnancy diagnosis, fear of medical facility)</p> <p>Apathy; display of anger with pregnancy diagnosis</p>	<p>Establish lines of communication. Active listening is useful. Establish trusting relationship. Encourage woman to take active part in her care.</p> <p>Establish communication and begin counseling. Use active listening techniques.</p>
<b>Educational Needs</b>		
May have questions about pregnancy or may need time to adjust to reality of pregnancy		Establish educational, supporting environment that can be expanded throughout pregnancy.
<b>Support Systems</b>		
Can identify at least two or three individuals with whom woman is emotionally intimate (partner, parent, sibling, friend)	Isolated (no telephone, unlisted number); cannot name a neighbor or friend whom she can call upon in an emergency; does not perceive parents as part of her support system	Institute support system through community groups. Help woman to develop trusting relationship with healthcare professionals.
<b>Family Functioning</b>		
Emotionally supportive Communications adequate Mutually satisfying Cohesiveness in times of trouble	Long-term problems or specific problems related to this pregnancy, potential stressors within the family, pessimistic attitudes, unilateral decision making, unrealistic expectations of this pregnancy or child	Help identify the problems and stressors, encourage communication, and discuss role changes and adaptations.
<b>Economic Status</b>		
Source of income is stable and sufficient to meet basic needs of daily living and medical needs	Limited prenatal care; poor physical health; limited use of healthcare system; unstable economic status	Discuss available resources for health maintenance and the birth. Institute appropriate referral for meeting expanding family's needs—food stamps and so forth.
<b>Stability of Living Conditions</b>		
Adequate, stable housing for expanding family's needs	Crowded living conditions; questionable supportive environment for newborn	Refer to appropriate community agency. Work with family on self-help ways to improve situation.
*Possible causes of alterations are identified in parentheses.		<sup>†</sup> This column provides guidelines for further assessment and initial nursing intervention.

## DETERMINATION OF DUE DATE

Childbearing families generally want to know the “due date,” or the date around which childbirth will occur. Historically the due date has been called the estimated date of confinement (EDC). However, the concept of confinement is rather negative, and some caregivers avoid it by referring to the due date as the estimated date of delivery (EDD). Childbirth educators often stress that babies are not “delivered” like a package; they are born. In keeping with a view that emphasizes the normality of the process, the authors of this text refer to the due date as the **estimated date of birth (EDB)**.

To calculate the EDB, it is helpful to know the date of the LMP. However, some women have episodes of irregular bleeding or fail to keep track of menstrual cycles. Thus, other techniques also help to determine how far along a woman is in her pregnancy—that is, at how many weeks’ gestation she is. Techniques include evaluating uterine size, determining when quickening occurs, and auscultating fetal heart rate with a Doppler device or ultrasound.

## NÄGELE’S RULE

The most common method of determining the EDB is **Nägele’s rule**, which uses 280 days as the mean length of pregnancy. To use this method, begin with the first day of the LMP, subtract 3 months, and add 7 days. For example:

First day of LMP	November 21
Subtract 3 months	– 3 months
	August 21
Add 7 days	+ 7 days
EDB	August 28

It is simpler to change the months to numeric terms:

November 21 becomes	11–21
Subtract 3 months	– 3
	8–21
Add 7 days	+ 7
EDB	8–28

A gestation calculator or wheel lets the caregiver calculate the EDB even more quickly (Figure 10–2 ●).

Nägele’s rule may be a fairly accurate determiner of the EDB if the woman has a history of menses every 28 days, remembers her LMP, and was not taking oral contraceptives before becoming pregnant.

However, Nägele’s rule is not foolproof. A delay in ovulation affects the formula Nägele’s rule uses to determine the EDB.

Ovulation usually occurs 14 days *before* the onset of the next menses, not 14 days after the previous menses. Consequently, if a woman’s cycle is irregular, or more than 28 days long, the time of ovulation may be delayed. If a woman has been using oral contraceptives, ovulation may

● **FIGURE 10–2**



The EDB wheel can be used to calculate the due date. To use it, place the “last menses began” arrow on the date of the woman’s LMP. Then read the EDB at the arrow labeled 40. In this case the LMP is September 8, and the EDB is June 17.

be delayed several weeks following her last menses. Then, too, a postpartum woman who is breastfeeding may resume ovulating but be amenorrheic for a time, making calculation based on LMP impossible.

## UTERINE ASSESSMENT

### Physical Examination

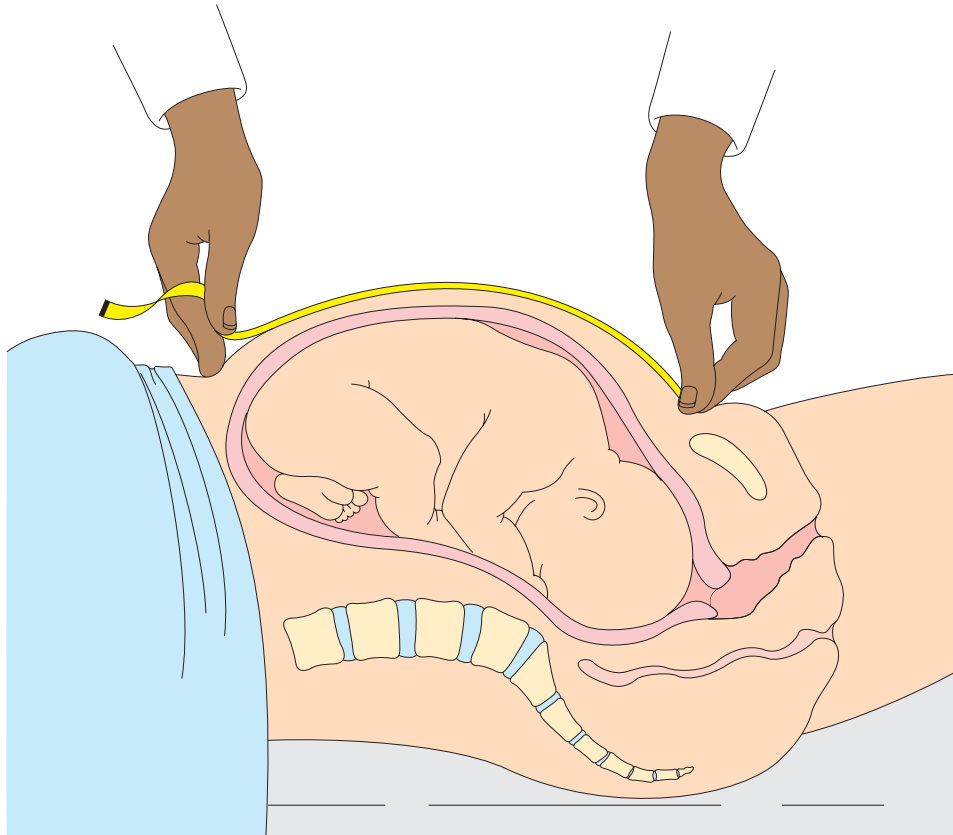
When a woman is examined in the first 10 to 12 weeks of her pregnancy and her uterine size is compatible with her menstrual history, uterine size may be the single most important clinical method for dating her pregnancy. In many cases, however, women do not seek maternity care until well into their second trimester, when it becomes much more difficult to evaluate specific uterine size. In obese women it is difficult to determine uterine size early in a pregnancy because the uterus is more difficult to palpate.

### Fundal Height

Fundal height may be used as an indicator of uterine size, although this method is less accurate late in pregnancy. A centimeter tape measure is used to measure the distance abdominally from the top of the symphysis pubis to the top of the uterine fundus (McDonald’s method) (Figure 10–3 ●). Fundal height in centimeters correlates well with weeks of gestation between 22 to 24 weeks and 34 weeks. Thus, at 26 weeks’

### ● FIGURE 10-3

A cross-sectional view of fetal position when McDonald's method is used to assess fundal height.



gestation, fundal height is probably about 26 cm. If the woman is very tall or very short, fundal height will differ. To be most accurate, fundal height should be measured by the same examiner each time. The woman should have voided within one-half hour of the examination and should lie in the same position each time. In the third trimester, variations in fetal weight decrease the accuracy of fundal height measurements.

A lag in progression of measurements of fundal height from month to month and week to week may signal intrauterine growth restriction (IUGR). A sudden increase in fundal height may indicate twins or hydramnios (excessive amount of amniotic fluid).

## ASSESSMENT OF FETAL DEVELOPMENT

### Quickening

Fetal movements felt by the mother, called quickening, may indicate that the fetus is nearing 20 weeks' gestation. However, quickening may be experienced between 16 and 22 weeks' gestation, so this method is not completely accurate.

### Fetal Heartbeat

The ultrasonic Doppler device (Figure 10-4 ●) is the primary tool for assessing fetal heartbeat. It can detect fetal heartbeat, on average, at 8 to 12 weeks' gestation. If an ul-

trasonic Doppler is not available, a fetoscope may be used, although in current practice it is seldom necessary. The fetal heartbeat can be detected by fetoscope as early as week 16 and almost always by 19 or 20 weeks' gestation.

### ● FIGURE 10-4



Listening to the fetal heartbeat with a Doppler device.

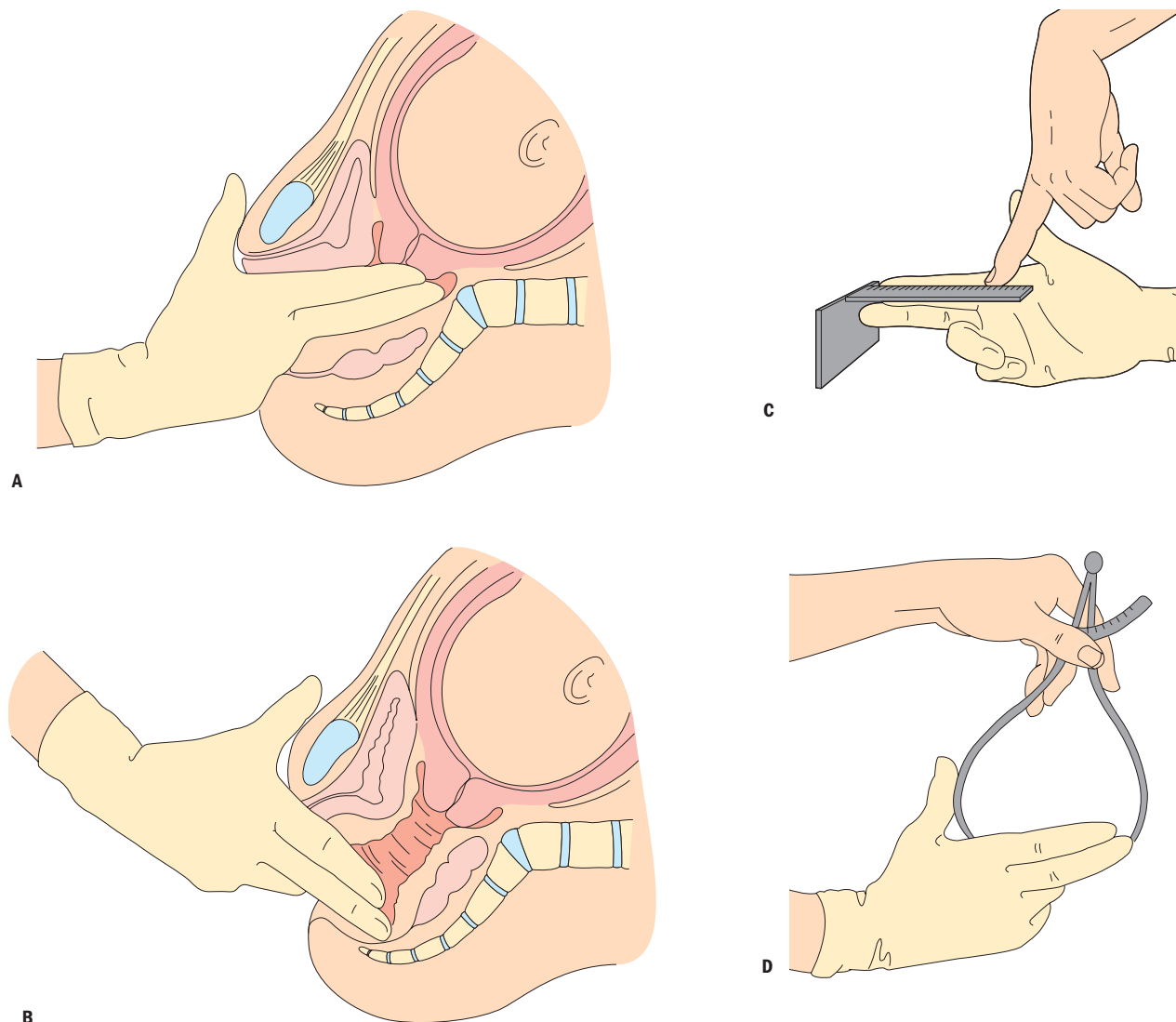
### Ultrasound

In the first trimester, ultrasound scanning can detect a gestational sac as early as 5 to 6 weeks after the LMP, fetal heart activity by 6 to 7 weeks, and fetal breathing movement by 10 to 11 weeks of pregnancy. Crown-to-rump measurements can be made to assess fetal age until the fetal head can be visualized clearly. Biparietal diameter (BPD) can then be used. BPD measurements can be made by approximately 12 to 13 weeks and are most accurate between 20 and 30 weeks, when rapid growth in the biparietal diameter occurs. (See Chapter 14 ∞ for discussion of fetal ultrasound scanning.)

### ASSESSMENT OF PELVIC ADEQUACY (CLINICAL PELVIMETRY)

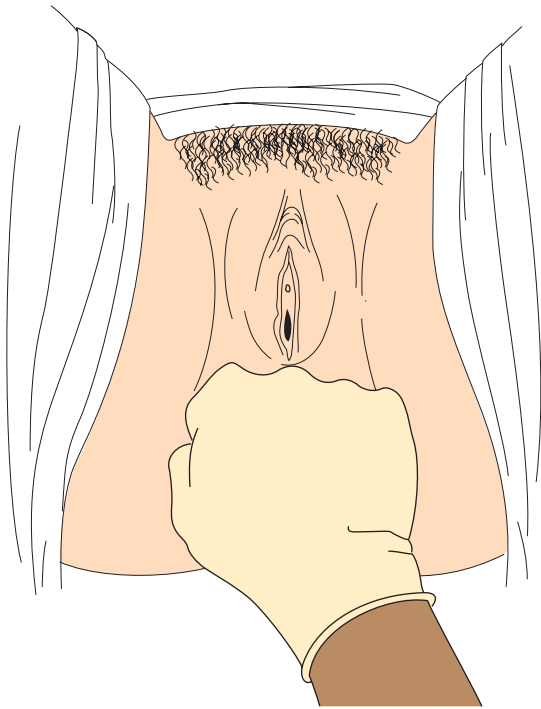
The pelvis can be assessed vaginally to determine whether its size is adequate for a vaginal birth. This procedure, clinical pelvimetry, is performed by physicians or by advanced practice nurses such as CNMs or nurse practitioners. For a detailed description of clinical pelvimetry, refer to a nurse-midwifery text. This section provides basic information about the assessment of the inlet and outlet (see Figures 10-5 ● and 10-6 ●), which were described in Chapter 3. ∞

● FIGURE 10-5



Manual measurement of inlet and outlet. **A**, Estimation of the diagonal conjugate, which extends from the lower border of the symphysis pubis to the sacral promontory. **B**, Estimation of the anteroposterior diameter of the outlet, which extends from the lower border of the symphysis pubis to the tip of the sacrum. **C** and **D**, Methods that may be used to check the manual estimation of anteroposterior measurements.

● **FIGURE 10-6**



Use of a closed fist to measure the outlet. Most examiners know the distance between their first and last proximal knuckles. If they do not, they can use a measuring device.

1. Pelvic inlet (Figure 10-5)

- **Diagonal conjugate** (the distance from the lower posterior border of the symphysis pubis to the sacral promontory) at least 11.5 cm
- **Obstetric conjugate** (a measurement approximately 1.5 cm smaller than the diagonal conjugate) 10 cm or more

2. Pelvic outlet (Figures 10-5 and 10-6)

- Anteroposterior diameter, 9.5 to 11.5 cm
- Transverse diameter (bi-ischial or intertuberous diameter), 8 to 10 cm

The pelvic cavity (midpelvis) cannot be accurately measured by clinical examination. Examiners estimate its adequacy. However, that discussion is also beyond the scope of this text.

## SUBSEQUENT CLIENT HISTORY

At subsequent prenatal visits, continue to gather data about the course of the pregnancy to date and the woman's responses to it. Also ask about the adjustment of the support person and of other children, if any, in the family. As pregnancy progresses, inquire about the preparations the family has made for the new baby.

Ask specifically whether the woman has experienced any discomfort, especially the kinds of discomfort that are often seen at specific times during a pregnancy. Inquire about physical changes that relate directly to the pregnancy, such as fetal movement. Also ask about the danger signs of pregnancy (Table 10-2).

Other pertinent information includes any exposure to contagious illnesses, medical treatment and therapy prescribed for nonpregnancy problems since the last visit, and any prescription or over-the-counter medications that were not prescribed as part of the woman's prenatal care.

Periodic prenatal examinations offer a chance to assess the childbearing woman's psychologic needs and emotional status. If the woman's partner attends the antepartal

**TABLE 10-2** ❖ **Danger Signs in Pregnancy**

The woman should report the following danger signs in pregnancy immediately:

Danger Sign	Possible Cause
Sudden gush of fluid from vagina	Premature rupture of membranes
Vaginal bleeding	Abruptio placentae, placenta previa Lesions of cervix or vagina "Bloody show"
Abdominal pain	Premature labor, abruptio placentae
Temperature above 38.3°C (101°F) and chills	Infection
Dizziness, blurring of vision, double vision, spots before eyes	Hypertension, preeclampsia
Persistent vomiting	Hyperemesis gravidarum
Severe headache	Hypertension, preeclampsia
Edema of hands, face, legs, and feet	Preeclampsia
Muscular irritability, convulsions	Preeclampsia, eclampsia
Epigastric pain	Preeclampsia, ischemia in major abdominal vessel
Oliguria	Renal impairment, decreased fluid intake
Dysuria	Urinary tract infection
Absence of fetal movement	Maternal medication, obesity, fetal death

## COMPLEMENTARY CARE

### YOGA DURING PREGNANCY

The following advice is important for women who practice yoga during pregnancy (Fontaine, 2005):

- During pregnancy, some yoga poses or positions are contraindicated. In particular, pregnant women should avoid those poses that put pressure on the uterus as well as any extreme stretching positions.
- Because of the changed center of gravity that occurs as pregnancy progresses, women need to be especially careful to maintain balance when doing stretching.
- Pregnant women should avoid stomach-lying for any poses. After 20 weeks' gestation, women should lie on their left side rather than on their back for floor positions.
- Pregnant women should immediately stop any pose that is uncomfortable.
- Warning signs that indicate the need to contact the physician or certified nurse-midwife immediately include the following: dizziness, extreme shortness of breath, sudden swelling, vaginal bleeding.

visits, they can also be a time to identify the partner's needs and concerns. The woman should have sufficient time to ask questions and air concerns. If a nurse provides the time and demonstrates genuine interest, the woman will be more at ease bringing up questions that she may believe are silly or has been afraid to verbalize.

Be sensitive to religious or spiritual, cultural, and socioeconomic factors that may influence a family's response to pregnancy, as well as to the woman's expectations of the healthcare system. One way to avoid stereotyping clients is simply to ask each woman about her expectations for the antepartal period. Although many women's responses may reflect what are thought to be traditional norms, other women will have decidedly different views or expectations that represent a blending of beliefs or cultures. During the antepartal period, it is also essential to begin assessing the readiness of the woman and her partner (if possible) to assume their responsibilities as parents successfully.

## SUBSEQUENT PRENATAL ASSESSMENT

The "Assessment Guide: Subsequent Prenatal Assessment" provides a systematic approach to the regular

## EVIDENCE-BASED NURSING

### GUIDELINES FOR PREVENTION OF PERINATAL GROUP B STREPTOCOCCAL DISEASE

#### Clinical Question

How can we effectively screen and treat pregnant women who have colonized for perinatal group B streptococcus (GBS)?

#### Evidence

Four experts from the National Center for Infectious Diseases revised its 1996 guideline, using input and consultation from 26 infectious disease practitioners from a variety of settings. After reviewing clinical trials and public health cohort studies, these experts concluded that risk-based screening is no longer acceptable to prevent perinatal GBS.

#### Implications

All pregnant women should be screened between 35 and 37 weeks' gestation for vaginal and rectal GBS colonization. Collection of specimens for culture may be conducted in an outpatient setting either by the woman, with instruction, or by the healthcare provider. If a woman is identified as a GBS carrier, chemoprophylaxis should be started at the time of labor or when membranes rupture. Antimicrobial agents should not be used before the intrapartum period to treat GBS colonization. Doing so has not been found to prevent neonatal disease and may have adverse consequences.

An exception is made if the GBS has been identified in the woman's urine. In this case, chemoprophylaxis should be started earlier because urinary concentration indicates a heavy colonization. Increased risk of giving birth to an infant with early-onset GBS disease warrants use of the

drug during pregnancy, even with the risk of complications. If a woman has previously given birth to an infant with invasive GBS disease, she should get chemoprophylaxis during the intrapartum period as well.

Only if the colonization status of the mother is unknown should the decision about chemoprophylaxis during labor be based on assessment of risk, rather than on cultures. Risks that would indicate treatment include premature gestation, prolonged rupture of the membranes, or a temperature greater than 38°C.

You should encourage women to be screened for GBS during late pregnancy. Clients need information about when to expect that preventive antimicrobial prophylaxis will be initiated. (Client resources and brochures are available from the Centers for Disease Control Web site at [www.cdc.gov](http://www.cdc.gov)) In most cases, prophylaxis is started when the woman is in labor but may be initiated earlier if heavy colonization is confirmed. Prevention of neonatal disease is a primary focus.

#### Critical Thinking

How will you respond to the questions mothers have about the safety of antimicrobial prophylaxis during labor? Earlier in the pregnancy? What assessments would indicate to you that a mother can expect the use of antimicrobials during labor?

#### Reference

Centers for Disease Control and Prevention. (2002). Prevention of perinatal group B streptococcal disease: Revised guidelines from CDC. *MMWR Recommendations and Reports*, 51(RR-11), 1-22.


**ASSESSMENT GUIDE**
**SUBSEQUENT PRENATAL ASSESSMENT**

<b>PHYSICAL ASSESSMENT/ NORMAL FINDINGS</b>	<b>ALTERATIONS AND POSSIBLE CAUSES*</b>	<b>NURSING RESPONSES TO DATA†</b>
<b>Vital Signs</b>		
<p><b>Temperature:</b> 36.2–37.6°C (97–99.6°F)</p> <p><b>Pulse:</b> 60–90/min Rate may increase 10 beats/min during pregnancy</p> <p><b>Respiration:</b> 16–24/min</p> <p><b>Blood pressure:</b> ≤ 135/85 (falls in second trimester)</p>	<p>Elevated temperature (infection)</p> <p>Increased pulse rate (anxiety, cardiac disorders)</p> <p>Marked tachypnea or abnormal patterns (respiratory disease)</p> <p>&gt; 140/90 or increase of 30 mm systolic and 15 mm diastolic (preeclampsia)</p>	<p>Evaluate for signs of infection. Refer to physician. Note irregularities. Assess for anxiety and stress.</p> <p>Refer to physician.</p> <p>Assess for edema, proteinuria, and hyperreflexia. Refer to physician. Schedule appointments more frequently.</p>
<b>Weight Gain</b>		
<p><b>First trimester:</b> 1.6–2.3 kg (3.5–5 lb)</p> <p><b>Second trimester:</b> 5.5–6.8 kg (12–15 lb)</p> <p><b>Third trimester:</b> 5.5–6.8 kg (12–15 lb)</p>	<p>Inadequate weight gain (poor nutrition, nausea, IUGR)</p> <p>Excessive weight gain (excessive caloric intake, edema, preeclampsia)</p>	<p>Discuss appropriate weight gain.</p> <p>Provide nutritional counseling. Assess for presence of edema or anemia.</p>
<b>Edema</b>		
<p>Small amount of dependent edema, especially in last weeks of pregnancy</p>	<p>Edema in hands, face, legs, and feet (preeclampsia)</p>	<p>Identify any correlation between edema and activities, blood pressure, or proteinuria. Refer to physician if indicated.</p>
<b>Uterine Size</b>		
<p>See “Assessment Guide: Initial Prenatal Assessment” for normal changes during pregnancy</p>	<p>Unusually rapid growth (multiple gestation, hydatidiform mole, hydramnios, miscalculation of EDB)</p>	<p>Evaluate fetal status. Determine height of fundus (page 227). Use diagnostic ultrasound.</p>
<b>Fetal Heartbeat</b>		
<p>120–160/min</p> <p>Funic souffle</p>	<p>Absence of fetal heartbeat after 20 weeks’ gestation (maternal obesity, fetal demise)</p>	<p>Evaluate fetal status.</p>
<b>Laboratory Evaluation</b>		
<p><b>Hemoglobin:</b> 12–16 g/dL Pseudoanemia of pregnancy</p> <p><b>Quad marker screen:</b> Blood test performed at 15–20 weeks’ gestation. Evaluates four factors—maternal serum alpha-fetoprotein (MSAFP), unconjugated estriol (UE), hCG, and inhibin-A: normal levels</p>	<p>&lt; 11 g/dL (anemia)</p> <p>Elevated MSAFP (neural tube defect, underestimated gestational age, multiple gestation). Lower than normal MSAFP (Down syndrome, trisomy 18). Higher than normal hCG and inhibin-A (Down syndrome). Lower than normal UE (Down syndrome).</p>	<p>Provide nutritional counseling. Hemoglobin is repeated at 7 months’ gestation. Women of Mediterranean heritage need a close check on hemoglobin because of possibility of thalassemia. Recommended for all pregnant women; especially indicated for women with any of the following risk factors: age 35 and over, family history of birth defects, previous child with a birth defect, insulin-dependent diabetes prior to pregnancy (Cleveland Clinic, 2005). If quad screen abnormal, further testing such as ultrasound or amniocentesis may be indicated.</p>
<p>*Possible causes of alterations are identified in parentheses.</p>		<p>†This column provides guidelines for further assessment and initial nursing intervention.</p>

ASSESSMENT GUIDE—continued		
SUBSEQUENT PRENATAL ASSESSMENT		
PHYSICAL ASSESSMENT/ NORMAL FINDINGS	ALTERATIONS AND POSSIBLE CAUSES*	NURSING RESPONSES TO DATA†
<b>Laboratory Evaluation (continued)</b>		
<p><b>Triple screen</b>—Screening test gradually being replaced by quad screen. Tests MSAFP, UE, and hCG but not inhibin-A</p> <p><b>Indirect Coombs test</b> done on Rh negative women: Negative (done at 28 weeks' gestation)</p> <p>50 g 1-hour glucose screen (done between 24 and 28 weeks' gestation)</p> <p><b>Urinalysis:</b> See "Assessment Guide: Initial Prenatal Assessment" for normal findings</p> <p><b>Protein:</b> Negative</p> <p><b>Glucose:</b> Negative</p> <p>Note: Glycosuria may be present due to physiologic alterations in glomerular filtration rate and renal threshold</p> <p><b>Screening for Group B streptococcus (GBS):</b> Rectal and vaginal swabs obtained at 35–37 weeks' gestation for all pregnant women (Centers for Disease Control and Prevention [CDC], 2002).</p>	<p>See quad screen.</p> <p>Rh antibodies present (maternal sensitization has occurred)</p> <p>Plasma glucose level &gt; 140 mg/dL (gestational diabetes mellitus [GDM])</p> <p>Note: Some facilities use level &gt; 130 mg/dL, which identifies 90% of women with GDM (American Diabetes Association, 2000)</p> <p>See "Assessment Guide: Initial Prenatal Assessment" for deviations</p> <p>Proteinuria, albuminuria (contamination by vaginal discharge, urinary tract infection, preeclampsia)</p> <p>Persistent glycosuria (diabetes mellitus)</p> <p>Positive culture (maternal infection)</p>	<p>Refer to physician.</p> <p>See quad screen.</p> <p>If Rh negative and unsensitized, Rh immune globulin given (see page 362 in Chapter 15 ∞). If Rh antibodies present, Rh immune globulin not given; fetus monitored closely for isoimmune hemolytic disease. Discuss implications of GDM. Refer for a diagnostic 100 g oral glucose tolerance test.</p> <p>Repeat urinalysis at 7 month's gestation. Repeat dipstick test at each visit.</p> <p>Obtain dipstick urine sample. Refer to physician if deviations are present.</p> <p>Refer to physician.</p> <p>Explain maternal and fetal/neonatal risks (see page 369 in Chapter 15 ∞).</p> <p>Refer to physician or CNM for therapy.</p>
CULTURAL ASSESSMENT	VARIATIONS TO CONSIDER*	NURSING RESPONSES TO DATA†
<p>Determine the mother's (and family's) attitudes about the sex of the unborn child.</p> <p>Ask about the woman's expectations of childbirth. Will she want someone with her for the birth? Whom does she choose? What is the role of her partner?</p> <p>Ask about preparations for the baby. Determine what is customary for the woman.</p>	<p>Some women have no preference about the sex of the child; others do. In many cultures, boys are especially valued as firstborn children.</p> <p>Some women want their partner present for labor and birth; others prefer a female relative or friend.</p> <p>Some women expect to be separated from their partner once cervical dilation has occurred (Andrews &amp; Boyle, 1998).</p> <p>Some women may have a fully prepared nursery; others may not have a separate room for the baby.</p>	<p>Provide opportunities to discuss preferences and expectations; avoid a judgmental attitude to the response.</p> <p>Provide information on birth options but accept the woman's decision about who will attend.</p> <p>Explore reasons for not preparing for the baby. Support the mother's preferences and provide information about possible sources of assistance if the decision is related to a lack of resources.</p>
*Possible causes of alterations are identified in parentheses.		†This column provides guidelines for further assessment and initial nursing intervention.

(continued)

## ASSESSMENT GUIDE—continued

## SUBSEQUENT PRENATAL ASSESSMENT

PSYCHOSOCIAL ASSESSMENT	VARIATIONS TO CONSIDER*	NURSING RESPONSES TO DATA†
<b>Expectant Mother</b>		
<p><b>Psychologic status</b></p> <p><b>First trimester:</b> Incorporates idea of pregnancy; may feel ambivalent, especially if she must give up desired role; usually looks for signs of verification of pregnancy, such as increase in abdominal size or fetal movement</p> <p><b>Second trimester:</b> Baby becomes more real to woman as abdominal size increases and she feels movement; she begins to turn inward, becoming more introspective</p> <p><b>Third trimester:</b> Begins to think of baby as separate being; may feel restless and may feel that time of labor will never come; remains self-centered and concentrates on preparing place for baby</p> <p><b>Educational needs</b></p> <p><b>Self-care measures and knowledge about the following:</b></p> <p>Health promotion</p> <p>Breast care</p> <p>Hygiene</p> <p>Rest</p> <p>Exercise</p> <p>Nutrition</p> <p>Relief measures for common discomforts of pregnancy</p> <p>Danger signs in pregnancy (See Key Facts to Remember on p. 217)</p> <p><b>Sexual activity:</b> Woman knows how pregnancy affects sexual activity</p> <p><b>Preparation for parenting:</b> Appropriate preparation</p> <p><b>Preparation for childbirth</b></p> <p><b>Client aware of the following:</b></p> <ol style="list-style-type: none"> <li>1. Prepared childbirth techniques</li> <li>2. Normal processes and changes during childbirth</li> <li>3. Problems that may occur as a result of drug and alcohol use and of smoking</li> </ol> <p>Woman has met other physician or nurse-midwife who may be attending her birth in the absence of primary caregiver</p>	<p>Increased stress and anxiety</p> <p>Inability to establish communication; inability to accept pregnancy; inappropriate response or actions; denial of pregnancy; inability to cope</p> <p>Inadequate information</p> <p>Lack of information about effects of pregnancy and/or alternative positions during sexual intercourse</p> <p>Lack of preparation (denial, failure to adjust to baby, unwanted child)</p> <p>Continued abuse of drugs and alcohol; denial of possible effect on self and baby</p> <p>Introduction of new individual at birth may increase stress and anxiety for woman and partner</p>	<p>Encourage woman to take an active part in her care.</p> <p>Establish lines of communication. Establish a trusting relationship. Counsel as necessary. Refer to appropriate professional as needed.</p> <p>Provide information and counseling.</p> <p>Provide counseling.</p> <p>Counsel. If lack of preparation is due to inadequacy of information, provide information.</p> <p>If couple chooses particular technique, refer to classes (see page 190 in Chapter 8 ∞ for description of childbirth preparation techniques). Encourage prenatal class attendance. Educate woman during visits based on current physical status. Provide reading list for more specific information.</p> <p>Review danger signs that were presented on initial visit.</p> <p>Introduce woman to all members of group practice.</p>
*Possible causes of alterations are identified in parentheses.		†This column provides guidelines for further assessment and initial nursing intervention.

ASSESSMENT GUIDE—continued		
SUBSEQUENT PRENATAL ASSESSMENT		
PSYCHOSOCIAL ASSESSMENT	VARIATIONS TO CONSIDER*	NURSING RESPONSES TO DATA†
<b>Expectant Father</b>		
<p><b>Impending labor</b></p> <p><b>Client knows signs of impending labor:</b></p> <ol style="list-style-type: none"> <li>1. Uterine contractions that increase in frequency, duration, and intensity</li> <li>2. Bloody show</li> <li>3. Expulsion of mucous plug</li> <li>4. Rupture of membranes</li> </ol> <p><b>Psychologic status</b></p> <p><b>First trimester:</b> May express excitement over confirmation of pregnancy and of his virility; concerns move toward providing for financial needs; energetic, may identify with some discomforts of pregnancy and may even exhibit symptoms</p> <p><b>Second trimester:</b> May feel more confident and be less concerned with financial matters; may have concerns about wife's changing size and shape, her increasing introspection</p> <p><b>Third trimester:</b> May have feelings of rivalry with fetus, especially during sexual activity; may make changes in his physical appearance and exhibit more interest in himself; may become more energetic; fantasizes about child but usually imagines older child; fears mutilation and death of woman and child</p>	<p>Lack of information</p> <p>Increasing stress and anxiety; inability to establish communication; inability to accept pregnancy diagnosis; withdrawal of support; abandonment of the mother</p>	<p>Provide appropriate teaching, stressing importance of seeking appropriate medical assistance.</p> <p>Encourage expectant father to come to prenatal visits. Establish lines of communication. Establish trusting relationship.</p> <p>Counsel. Let expectant father know that it is normal for him to experience these feelings.</p> <p>Include expectant father in pregnancy activities as he desires. Provide education, information, and support. Increasing numbers of expectant fathers are demonstrating desire to be involved in many or all aspects of prenatal care, education, and preparation.</p>
*Possible causes of alterations are identified in parentheses.		†This column provides guidelines for further assessment and initial nursing intervention.

physical examinations the pregnant woman should undergo for optimal antepartal care and also provides a model for evaluating both the pregnant woman and the expectant father, if he is involved in the pregnancy.

During the subsequent antepartal assessments, most women demonstrate ongoing psychologic adjustment to pregnancy. However, some women may exhibit signs of possible psychologic problems such as the following:

## NURSING PRACTICE

When assessing blood pressure, have the pregnant woman sit up with her arm resting on a table so that her arm is at the level of her heart. Expect a decrease in blood pressure from baseline during the second trimester because of typical physiologic changes. If the decrease does not occur, evaluate further for signs of preeclampsia.

The recommended frequency of antepartal visits in an uncomplicated pregnancy is as follows:

- Every 4 weeks for the first 28 weeks' gestation
- Every 2 weeks until 36 weeks' gestation
- After week 36, every week until childbirth

- Increasing anxiety
- Inability to establish communication
- Inappropriate responses or actions
- Denial of pregnancy
- Inability to cope with stress
- Intense preoccupation with the sex of the baby
- Failure to acknowledge quickening
- Failure to plan and prepare for the baby (e.g., living arrangements, clothing, and feeding methods)
- Indications of substance abuse

If the woman's behavior indicates possible psychologic problems, the nurse can provide ongoing support and counseling and also refer the woman to appropriate professionals.

# Critical Concept Review

## LEARNING OBJECTIVES

## CONCEPTS

Summarize the essential components of a prenatal history.

- A detailed prenatal history includes the following:
- Details of current pregnancy (such as LMP).
  - History of past pregnancies.
  - Gynecologic history (such as last Pap and contraceptive use).
  - Current medical history (such as weight, prescription medications, chronic diseases).
  - Past medical history (past surgeries).
  - Family medical history (cancer or diabetes).
  - Religious, spiritual, and cultural history.
  - Occupational history (physical demands of present job).
  - Partner's history (genetic conditions, blood type).
  - Demographic information about woman (age, educational level, and ethnic background).

Define common obstetric terminology found in the history of maternity clients.

- Terms about the number of pregnancies and births: gravida, parity, and TPAL.
- Terms that denote the phase of pregnancy: ante-, intra-, and postpartum.
- Terms that denote age and developmental status of fetus at birth: prematurity, postmaturity, and term (see page 214).

Identify factors related to the father's health that are generally recorded on the prenatal record.

- Father's health details to be recorded:
- History of chronic illness in father or immediate family member.
  - Blood type and Rh factor.
  - Present use of alcohol, tobacco, or recreational drugs.
  - Occupation.
  - Age.

Describe areas that should be evaluated as part of the initial assessment of psychosocial and cultural factors related to a woman's pregnancy.

- Language preference.
- Determine how woman should be addressed.
- Determine food customs and preferences.
- Determine significant people to woman, and degree of involvement of these persons.
- Psychologic status.
- Educational needs.
- Support system.
- Family functioning.
- Economic status.
- Stability of living conditions.

Describe the normal physiologic changes one would expect to find when performing a physical assessment of a pregnant woman.

- Vital signs:
- Pulse may increase by 10 beats/min.
  - Respiration may be increased, and thoracic breathing predominant.
  - Temperature and blood pressure within normal limits.
- Weight:
- Varies, but should be proportional to the gestational age of the fetus.
- Skin:
- Linea nigra.
  - Striae gravidarum.
  - Melasma.
  - Spider nevi.
- Nose:
- Nasal stuffiness.
- Mouth:
- Gingival hypertrophy.

## LEARNING OBJECTIVES

## CONCEPTS

## Neck:

- Small, nontender nodes.
- Slight hyperplasia of thyroid in third trimester.

## Chest and lungs:

- Transverse diameter greater than anteroposterior diameter.

## Breasts:

- Increasing size.
- Pigmentation of nipples and areolae.
- Tubercles of Montgomery enlarge.
- Colostrum appears in third trimester.

## Abdomen:

- Progressive enlargement by Doppler.
- Fetal heart rate heard by Doppler at approximately 12 weeks' gestation.

## Extremities:

- Possible edema late in pregnancy.

## Spine:

- Lumbar spinal curve may be accentuated.

## Pelvic area:

- Vagina without significant discharge.
- Cervix closed.
- Uterus shows progressive growth.

## Laboratory tests:

- Physiologic anemia may occur (hematocrit).
- Small degree of glycosuria may occur.

Compare the methods most commonly used to determine the estimated date of birth.

## Nägele's rule:

- Date of LMP minus 3 months plus 7 days.
- Accurate only if woman has 28-day cycles.

## Physical examination:

- Uterine size.

## Fundal height:

- Measurement should be made from the top of the symphysis pubis to the top of the uterine fundus.

## Ultrasound:

- BPD.

Develop an outline of the essential measurements that can be determined by clinical pelvimetry.

These measurements are estimates to determine probable adequacy of the pelvis to allow a vaginal birth:

## Pelvic inlet:

- Diagonal conjugate (should be at least 11.5 cm).
- Obstetric conjugate (should be 10 cm or more).

## Pelvic outlet:

- Anteroposterior diameter (should be 9.5 to 11.5 cm).
- Transverse diameter (should be 8 to 10 cm).

Delineate the possible causes of abnormal findings during the initial or subsequent prenatal examination.

## Vital signs:

- Elevations may be due to infection.
- Blood pressure elevation may be due to preeclampsia.

## Weight:

- Less than expected weight gain may be due to inadequate nutrition.
- More than expected weight gain may be due to preeclampsia.

## Skin:

- Pallor due to anemia.
- Edema due to decreased venous return or preeclampsia.
- Petechiae or bruises may be due to bleeding disorders or physical abuse.

## Nose and mouth:

- Pale mucous membrane may be due to anemia.
- Inflamed gingival tissue.

(continued)



## CRITICAL THINKING IN ACTION

View the **Critical Thinking in Action** video in Chapter 10 of the CD-ROM. Then, answer the questions that follow.



Wendy Stodard, age 40, G3, P0020 comes to the obstetrician's office where you are working for a prenatal visit. Wendy has experienced two spontaneous abortions followed by a D & C at 14 and 15 weeks' gestation during the previous year. She has a history of *Chlamydia trachomatis* infection 3 years ago, which

was treated with azithromycin. She is at 10 weeks' gestation. Wendy tells

you that she is afraid of losing this pregnancy as she did previously. She says that she has been experiencing some mild nausea, breast tenderness, and fatigue, which did not occur with her other pregnancies. You assist the obstetrician with an ultrasound. The gestational sac is clearly seen, fetal heartbeat is observed, and crown-to-rump measurements are consistent with gestational age of 10 weeks. The pelvic exam demonstrates a closed cervix, and positive Goodell's, Hegar's, and Chadwick's signs. You discuss with Wendy the signs of a healthy pregnancy.

1. What signs are reassuring with this pregnancy?
2. What symptoms should be reported to the obstetrician immediately?
3. What is the frequency of antepartal visits?

## MEDIA LINK



[www.prenhall.com/london](http://www.prenhall.com/london)

- NCLEX-RN® Review, case studies, and other interactive resources for this chapter can be found on the Companion Website at <http://www.prenhall.com/london>. Click on "Chapter 10" to select the activities for this chapter.



- For animations, more NCLEX-RN® Review questions, and an audio glossary, access the accompanying CD-ROM in this textbook.

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