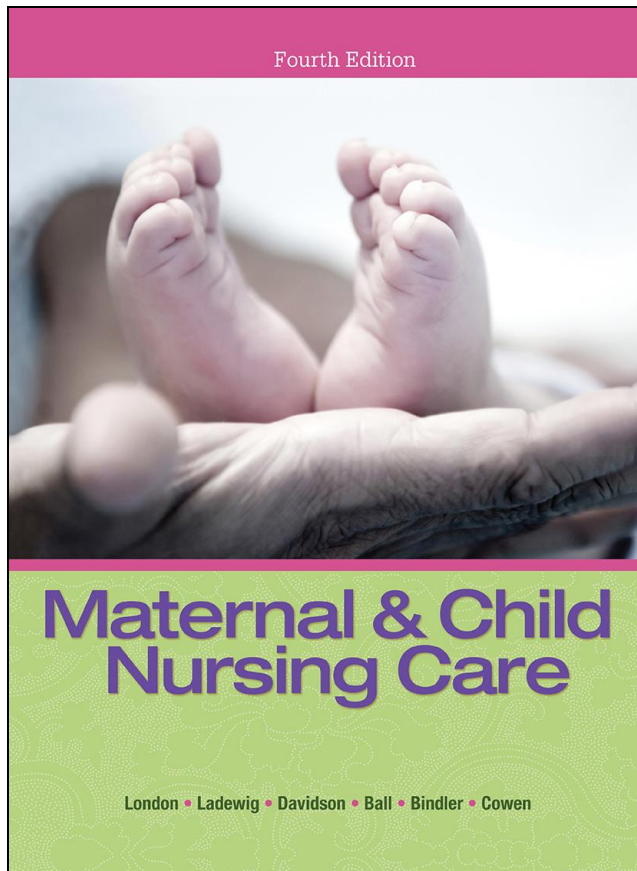


MATERNAL & CHILD NURSING CARE

FOURTH EDITION



CHAPTER 10

Antepartum Nursing Assessment

Learning Outcome 10-1

Use information provided on a prenatal history to identify risk factors for the mother and/or fetus.

Definition

- Antenatal Care (ANC) means “care before birth”.
- ✓ Education
- ✓ Counseling
- ✓ Screening
- ✓ Treatment to monitor and promote the well-being of the mother and fetus.

Why antenatal Care?

- Establish baseline data of pregnancy history & health
- Help women maintain normal pregnancies through.
- Determine GA of the fetus
- Monitor fetal growth
- Identify women at risk to minimize complications
- Health promotion & disease prevention

Follow-up Visits: During Pregnancy

Visit schedule:

- Every 4 weeks up to 28 weeks
- Every 2 weeks from 29 to 36 weeks
- Every week from 37 weeks to birth

How many visits?

Villar et al. WHO study, 2001.

(WHO) All pregnant women should have 4-6 routine focused antenatal visits:

- 1st visit ▶ Before 4 months
- 2nd visit ▶ 6 months
- 3rd visit ▶ 8 months
- 4th visit ▶ 9 months

First antenatal visit

- Review previous records
- History
- Physical exam
- Risk assessment
- Assessment of fetal well being
- Laboratory
- Education/counseling

Prenatal History

- Current and past pregnancies
- Gynecologic history
- Menstrual History
- Current & past medical history, including substance abuse
- Family medical history
- Religious, cultural, and occupational history
- Partner history
- Social history and preferences

Learning Outcome 10-2

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

Obstetric History Terminology

- **Antepartum:** (prenatal period), begins with the first day of the last normal menstrual period (LMP) and ends with the onset of labor (known as the intrapartal period).
- **Intrapartum**
- **Postpartum**

Obstetric History Terminology

Pregnancy is also counted in terms of trimesters, each roughly 3 months in length:

Trimesters

- First trimester: first day of LMP through 14 completed weeks
- Second trimester: 15 weeks through 28 completed weeks
- Third trimester: 29 weeks through 40 completed weeks

Gestational Terminology

- Gestation
- Abortion: Number of pregnancies ending in spontaneous or therapeutic abortion
- Term: Number of term infants born (completion of at least 37 weeks' gestation)

Labor and Delivery Terminology

- Stillbirth??

Homework: Self learning



Pregnancy Terminology

- Gravidity = All pregnancies of any duration
- Parity: the number of pregnancies in which the fetus or fetuses have reached viability when they are born, not the number of fetuses (e.g., twins) born. Whether the fetus is born alive or is stillborn (fetus who shows no signs of life at birth) after viability is reached does not affect parity
- Viability: capacity to live outside the uterus; about 22 to 24 weeks since last menstrual period, or fetal weight greater than 500 g

Pregnancy Terminology

- Gravida (G): A woman who has been pregnant (any pregnancy regardless to duration). Counting: all previous pregnancies including this one
- Nulligravida: A woman who has never been pregnant
- Primigravida (PG): A woman pregnant for 1st time
- Multigravida: A woman pregnant more than once

Birth Terminology

- Nullipara: a woman who has not completed a pregnancy with a fetus or fetuses who have reached the stage of fetal viability
- Primipara: a woman who has completed one pregnancy with a fetus or fetuses who have reached the stage of fetal viability
- Multipara: a woman who has completed two or more pregnancies to the stage of fetal viability

Pregnancy and Birth History

- Term (T): Number of term infants born (completion of at least 37 weeks' gestation)

or

- a pregnancy from the beginning of week 38 of gestation to the end of week 42 of gestation

Pregnancy and Birth History

- Preterm: a pregnancy that has reached 20 weeks of gestation but before completion of 37 weeks of gestation.
- Postdate or postterm: a pregnancy that goes beyond 42 weeks of gestation

Pregnancy and Birth History

- P
 - Number of preterm infants born (after 20 weeks' but before 37 weeks' gestation)
- A
 - Number of pregnancies ending in spontaneous or therapeutic abortion
- L
 - Number of currently living children

5 Digit System: Assessing Gravidity

GTPAL

G = pregnancies

T = no terms infants > 37
weeks

P = no preterm infants > 20
weeks

A = no abortions

L = no living children

THINK ?

G2P1001

G4P3013

G4P3205

G2P0010

Figure 10-1 The TPAL approach provides detailed information about a woman’s pregnancy history.

Name	Gravida	<u>T</u>erm	<u>P</u>reterm	<u>A</u>bstions	<u>L</u>iving Children
Jean Sanchez	2	1	0	1	1
Tracy Hopkins	4	1	2	1	2

e.g. (1): Use the 5-digit system to describe gravidity:

- Sireen is pregnant. She has 2 daughters; one of them born @ 28 weeks.

G3P1102

- Huda is pregnant. She gave birth to a son at 29 weeks gestation and died after birth. She had 2 miscarriages.

G4P0120

e.g. (2): Use the 5-digit system to describe gravidity:

- Maha is a pregnant woman. At home she has a child who was born at term. Her second pregnancy ended @ 10 weeks gestation. She then gave birth to twins @ 35 weeks. One twin died soon after birth. At her prenatal exam, you should record her obstetric history as:

G4 P1212

Learning Outcome 10-3

- Identify risk factors related to the father's health that are generally recorded on the prenatal record in assessing risk factors for the mother and/or fetus

Factors Related to Father's Health

- Family history of genetic conditions
- Age
- Significant health problems
- Previous or present alcohol intake
- Drug and tobacco use
- Blood type and Rh factor

Factors Related to Father's Health

- Occupation
- Educational level
- Methods by which he learns best
- Attitude toward the pregnancy

Learning Outcome 10-4

Evaluate those areas of the initial assessment that reflect the psychosocial and cultural factors related to a woman's pregnancy.

Psychosocial Factors

- History of deprivation or abuse
- History of emotional problems
 - Depression and anxiety in general
 - Postpartum depression
- Support systems

Psychosocial Factors

- Overuse or underuse of healthcare system
- Acceptance of pregnancy, intended or unintended
- Personal preferences about the birth
- Plans for care of child following birth
- Feeding preference for the baby

Cultural Factors

- Factors that influence the woman's expectations of the childbearing experience
- Beliefs or practices that maintain her spiritual well-being or influence care
 - Prohibit receiving blood products
 - Dietary restrictions
- Ask about specific practices

Learning Outcome 10-5

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

Normal Changes in Pregnancy

- Skin

- **Spider nevi common:** a collection of small, dilated arterioles (blood vessels) clustered very close to the surface of the skin. The cluster of vessels is web-like, with a central spot and radiating vessels.
- **Pigmentation changes**
 - **Linea nigra:** darkened line in midline of abdomen
 - **Striae gravidarum:** (stretch marks): stretching of skin due to growth of breast, hips, abdomen, & buttocks plus the effects of estrogen, relaxin, and adrenocorticoids may result in tearing of subcutaneous connective tissue/collagen.

Normal Changes in Pregnancy

Skin

- **Melasma:** chloasma/mask of pregnancy.
 - ✓ Brownish pigmentation of the skin over the cheeks, nose, & forehead.
 - ✓ Occurs in 50%–70% of pregnant women & is more common in darker skinned women.
 - ✓ Usually occurs after the 16th week of pregnancy & is exacerbated by sun exposure.
- **Nose**
 - May be edematous

Normal Changes in Pregnancy

Spider nevi

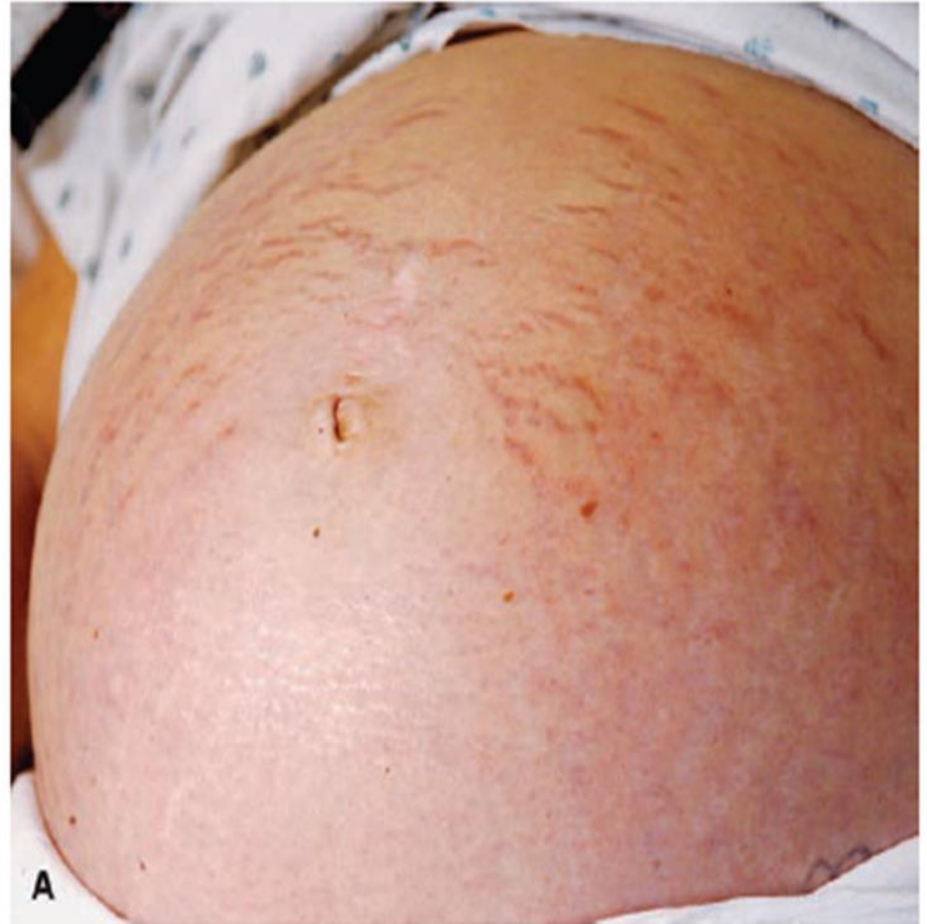


Figure 9-2 Linea nigra. *Source: George Dodson/Lightworks Studio/Pearson Education.*



Normal Changes in Pregnancy

Striae gravidarum



Chloasma: “mask of pregnancy”



Normal Changes in Pregnancy

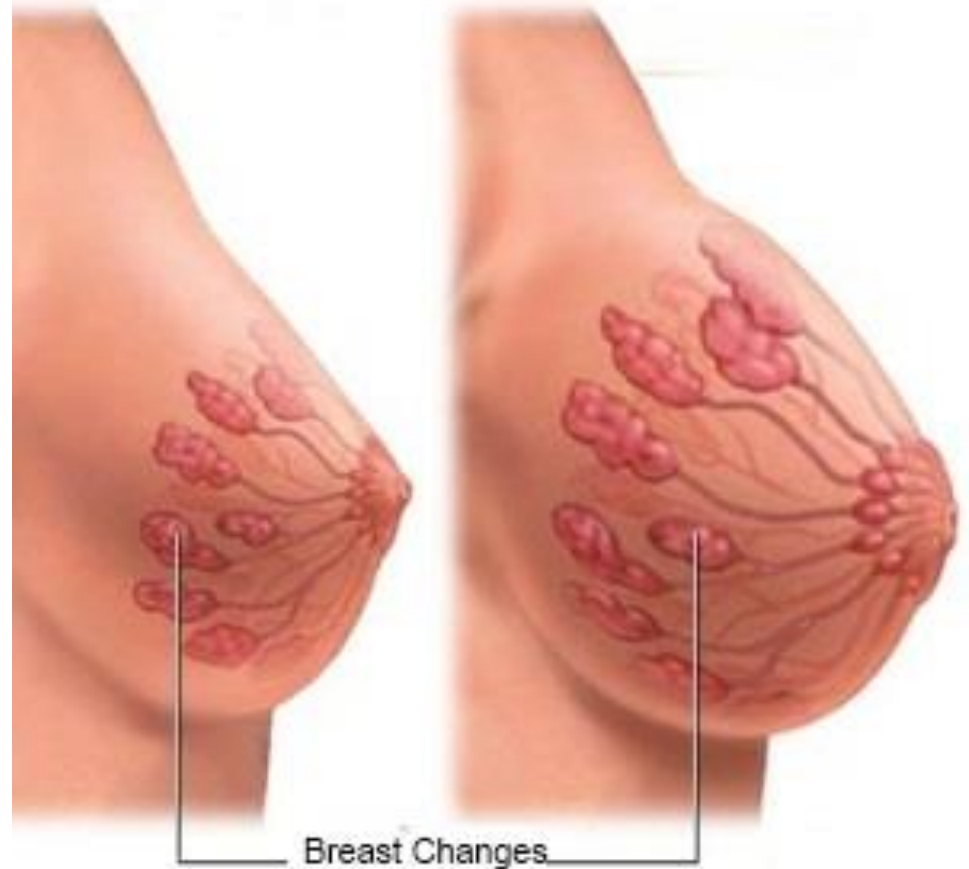
- Mouth
 - May have hypertrophy of gingival tissue
- Thyroid
 - Slight hyperplasia by third month

Normal Changes in Pregnancy

- Breasts
 - Size increase noted in first 20 weeks
 - Become nodular
 - Tingling sensation in first and third trimesters
 - Pigmentation of nipples and areolae darken

Normal Changes in Pregnancy

Breasts changes



Normal Changes in Pregnancy

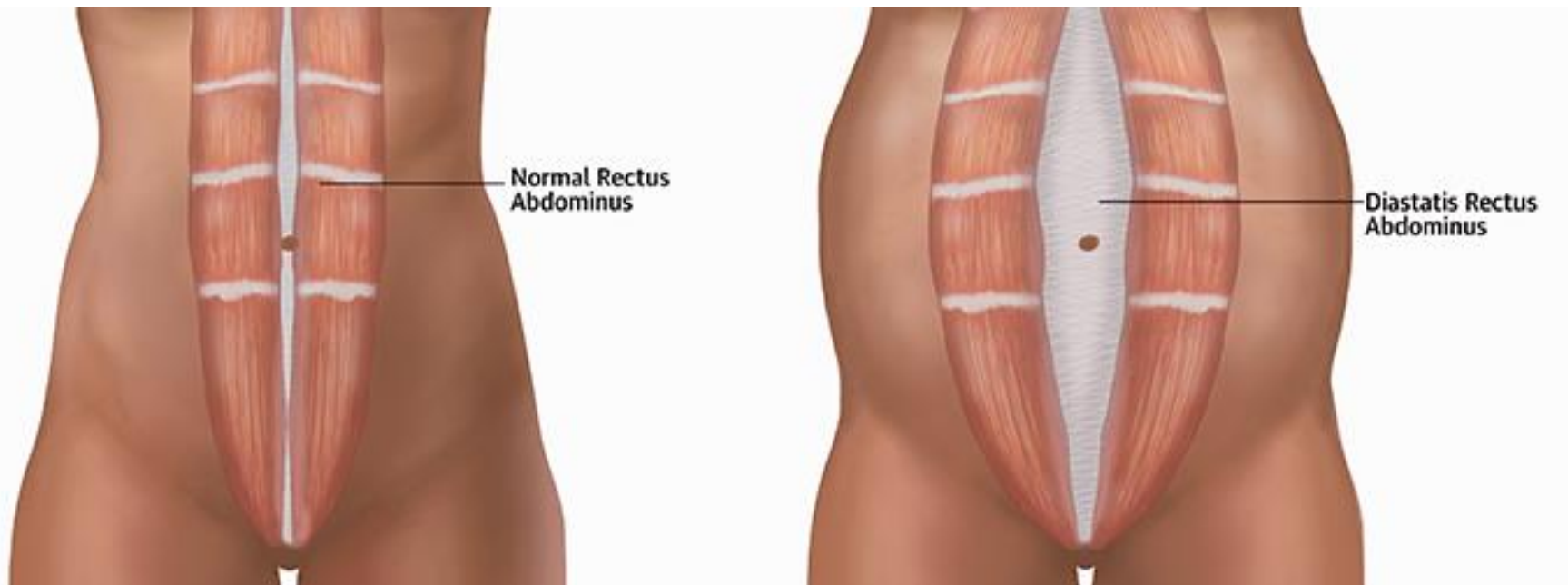
- Breasts
 - Superficial veins dilate and become more prominent
 - Striae in multiparas
 - Tubercles of Montgomery enlarge
 - Colostrum may be present after 12 weeks

Normal Changes in Pregnancy

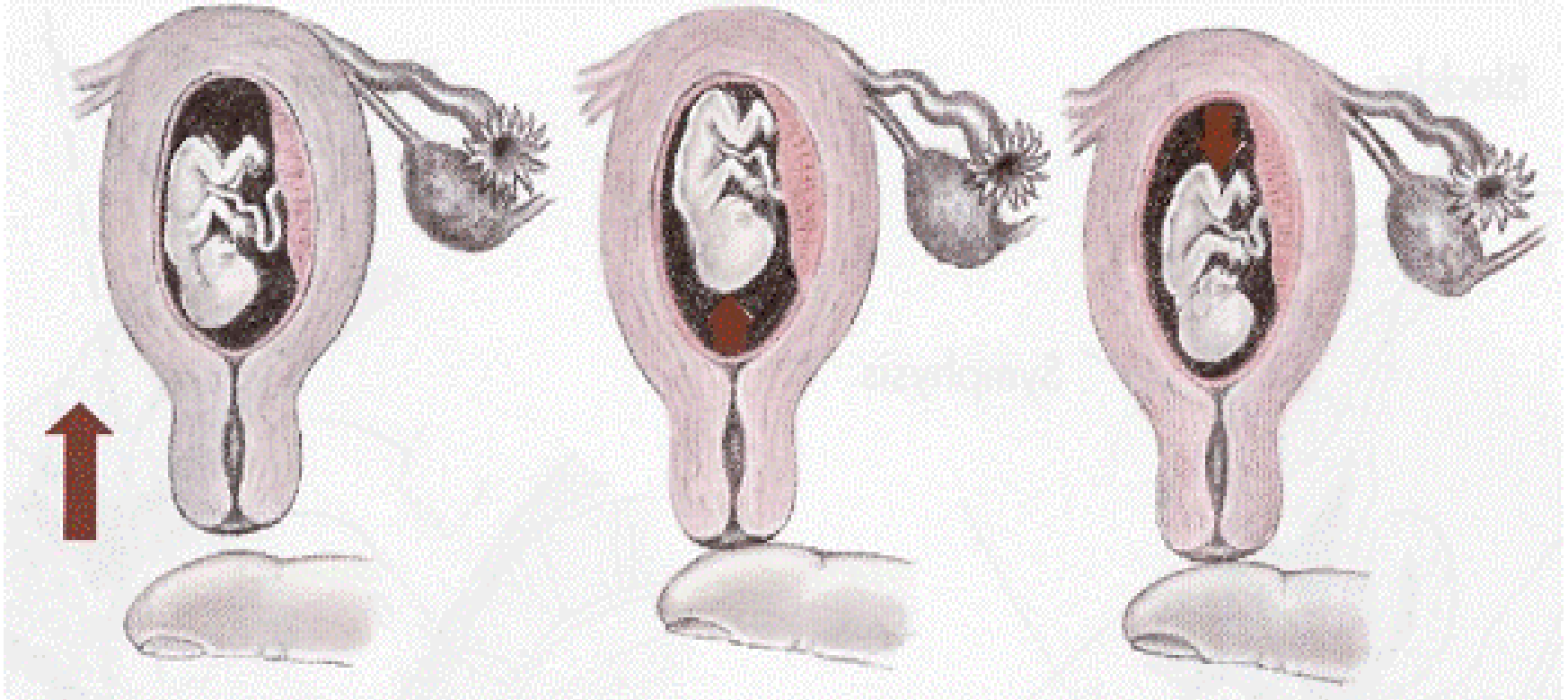
- Heart
 - Palpitations may occur
 - Short systolic murmurs
- Abdomen
 - Purple or silver striae may be present
 - Linea nigra
 - Diastasis of the rectus muscle
 - Progressive enlargement
 - Ballottement: probable sign of pregnancy

Normal Changes in Pregnancy

Diastasis of the rectus muscle: separation of the rectus abdominis muscle in the midline caused by the abdominal distention



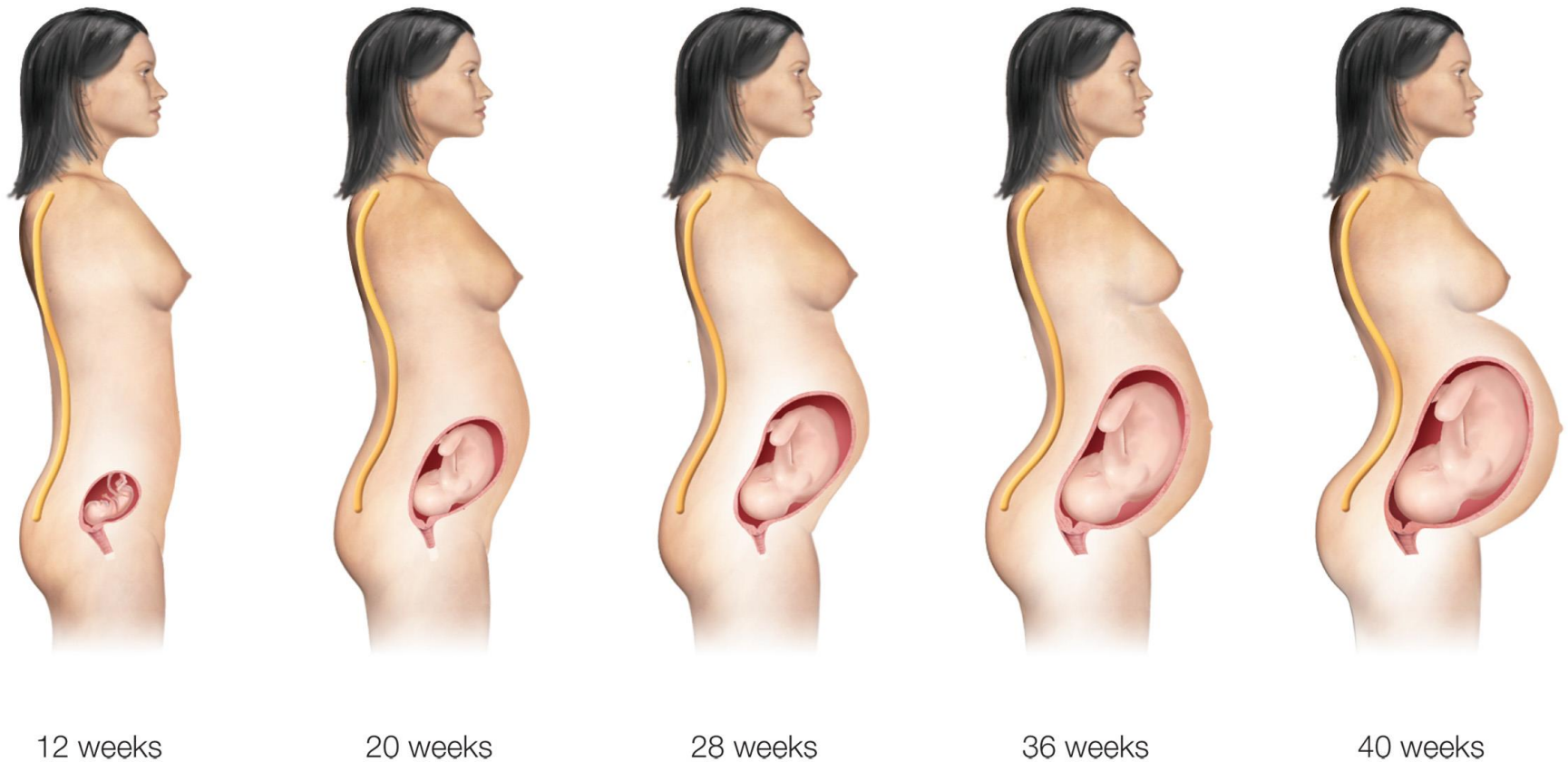
Ballottement's sign



Normal Changes in Pregnancy

- Spine
 - Lumbar spinal curve may increase and be more visible

Figure 9-3 Postural changes during pregnancy. Note the increasing lordosis of the lumbosacral spine and the increasing curvature of the thoracic area.



Normal Changes in Pregnancy

- Pelvis
 - Enlargement in anteroposterior diameter
 - Softening of cervix (Goodell's sign), softening of isthmus of uterus (Hegar's sign), cervix takes on bluish coloring (Chadwick's sign)
 - Uterus is pear shaped, mobile, & smooth

Learning Outcome 10-6

Calculate the estimated date of birth using the common methods.

Estimating EDB

- Nägele's Rule
- EDB wheel
- Uterine size
- Quickening
- Auscultating
 - Ultrasonic Doppler device
 - Fetoscope

Estimating EDB

- EDC: estimated date of confinement
- EDD: estimated date of delivery
- EDB: estimated date of birth

Negele's Rule

- Most common method of determining EDB/EDD
- Uses 280 days as mean length of pregnancy
- Method: Subtract 3 months & add 7 days to the dates of LMP

Negele's Rule

The formula is:

1st day LMP – 3 months + 7 days

Example: LMP Sept 7

–3 months

June 7

+7 days

EDD June 14

Think !

- Q 1: First day of LMP: 21/11/2012

EDD would be ??

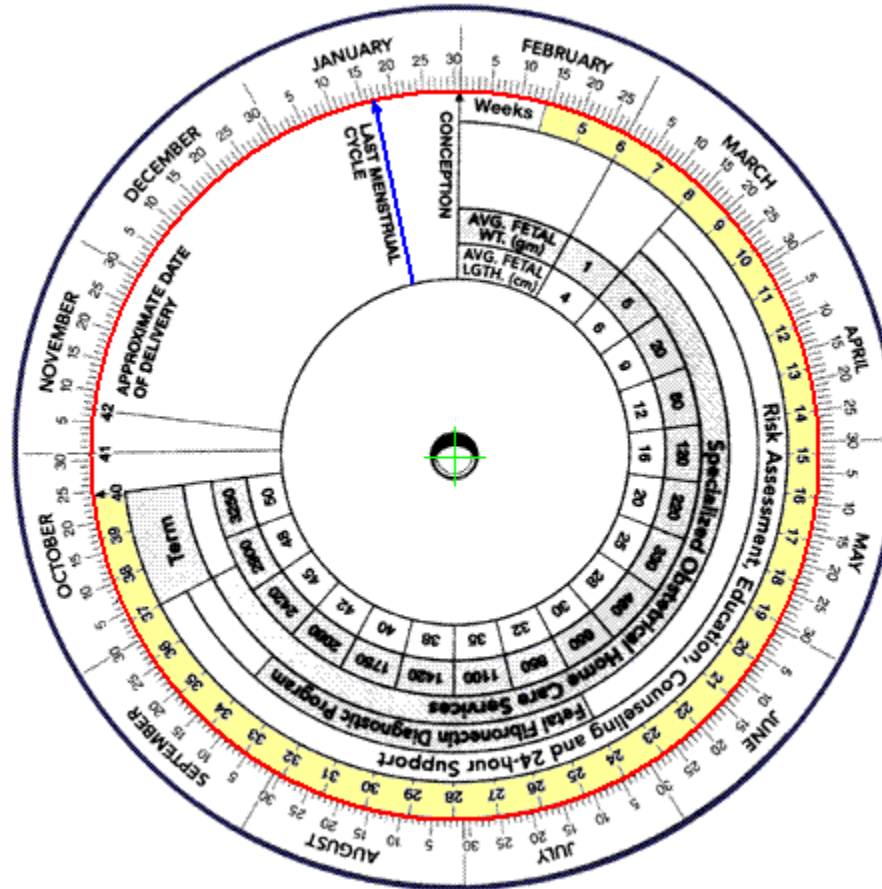
28/8/2013

- Q 2: First day of LMP: 15/1/2013

EDD would be ??

22/10/2013

Gestational Wheel



Abdominal exam

For pregnant woman:

- ✓ Abdominal is an important exam →
- ✓ The easiest & cheapest method of fetal monitoring

Goals:

- to detect abnormalities in uterine size
- detect lie ??, presentation ?? & station ?? in late pregnancy

Homework: find out !





Abdominal exam (PROCEDURE)

Homework: Self learning 😊

Assessment of fetal well-being

Fundal height:

- An indicator of uterine size
- By meter: measure distance from symphysis pubis to the top of the fundus (McDonald's method)
- There is correlation bw fundal height in cm & wks of gestation especially bw 22-34 wks. i.e. 26 weeks gestation probably = 26 cm
- For accuracy, fundal height should be measured by same examiner

Fundal height



Assessment of fetal well-being

Quickening:

- 1st movement felt by woman (usually felt bw 16-22 wks)

Assessment of fetal well-being

- Fetal heartbeats: can be detected @ 8-12 wks
- First auscultation of fetal heart rate with a doppler and/or a fetoscope (stethoscope for auscultation of fetal heart tones)
- The normal fetal heart rate (FHR) baseline is between 110 bpm to 160 bpm.

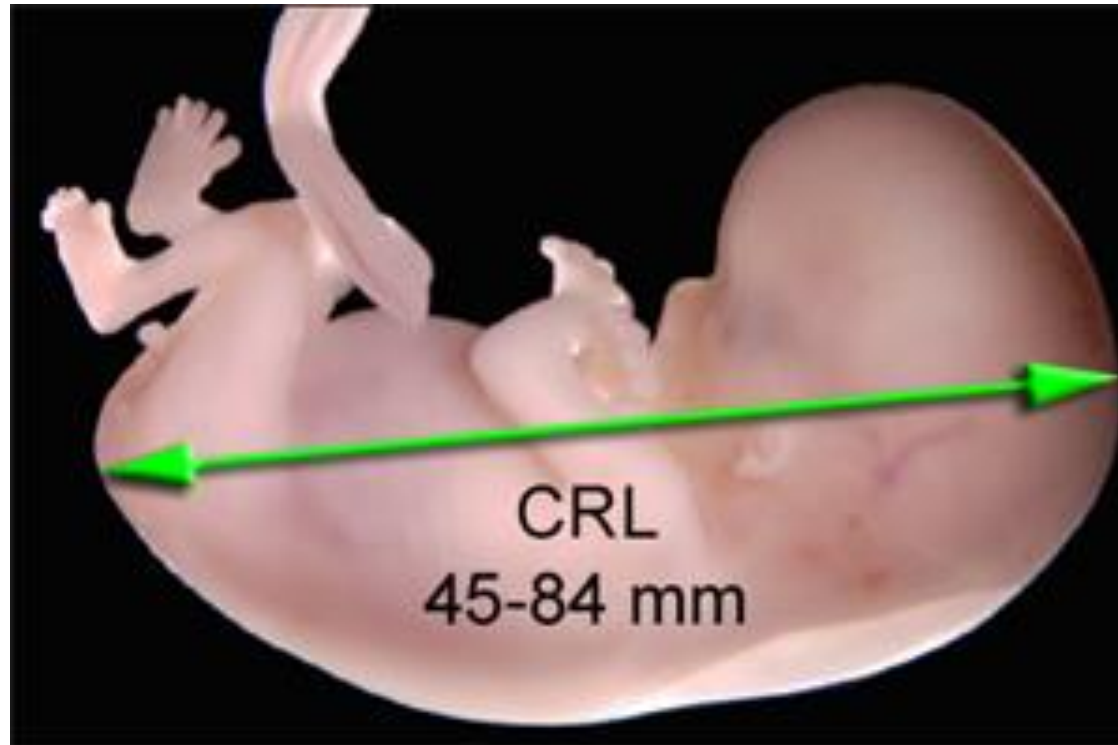
Checking fetal heart beats



Assessment of fetal well-being

- Ultrasound: (LMP, EDC, FHR, breathing movement, crown-to-rump measurement to assess fetal age, biaparietal diameter.

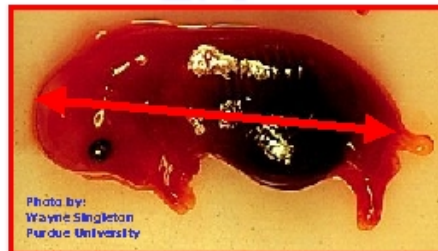
Assessment of fetal well-being



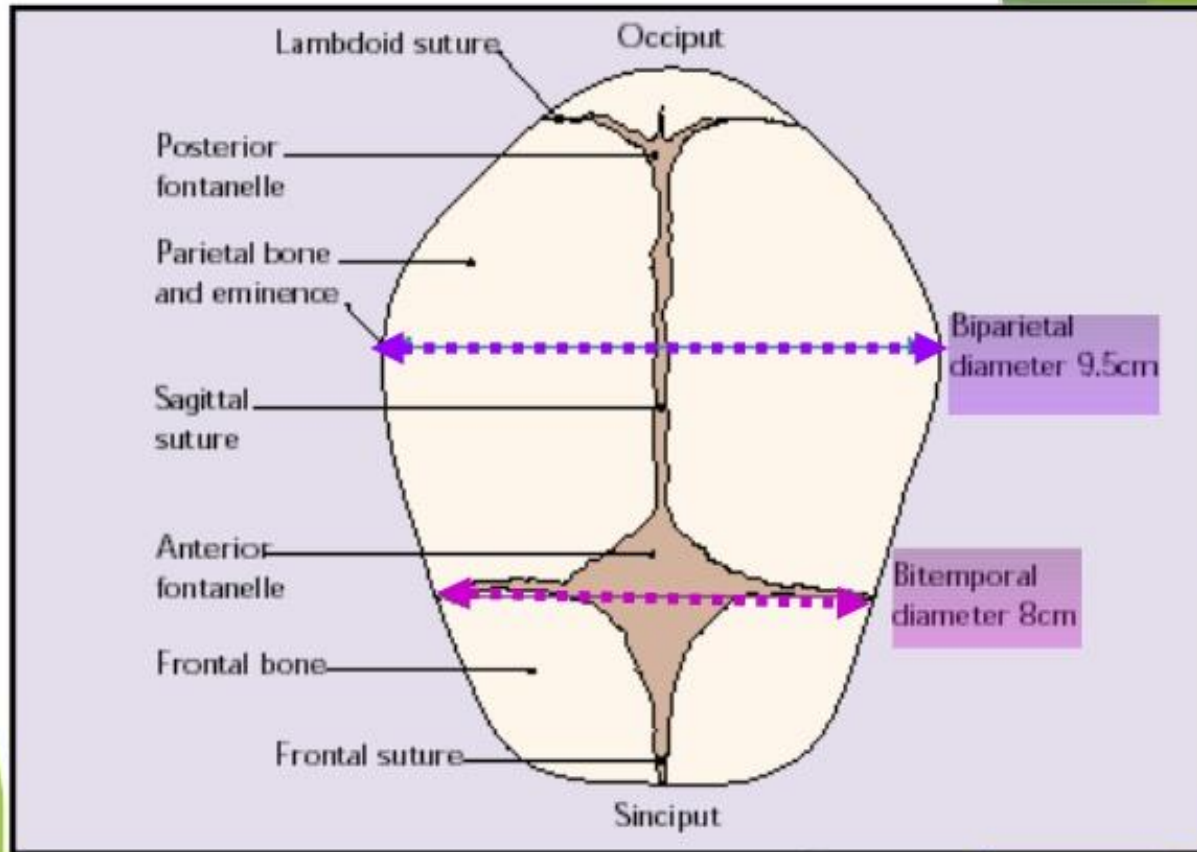
Assessment of fetal well-being

Using Crown Rump Length to Determine Fetal Age

Day of Gestation	Length (mm)	Length (in)
30	20	0.7
50	90	3.5
70	166	6.5
90	225	8.8
110	270	10.6



Assessment of fetal well-being



Assessment of fetal well-being



Fetal well-being can be checked by:



Learning Outcome 10-7

Describe the essential measurements that can be determined by clinical pelvimetry.

Clinical Pelvimetry

- Pelvic inlet
- Pelvic outlet

Prenatal care

- Initial Visit (First Trimester) **SUMMARY**

History & Physical Assessment

- ✓ Complete history
- ✓ Current pregnancy history
- ✓ Complete physical, abdominal & pelvic examination
- ✓ Determine EDD

Danger signs

Education & counseling

Learning Outcome 10-10

Relate the components of the subsequent prenatal history and assessment to the progress of pregnancy and the nursing care of the prenatal patient.

Prenatal care

- Return Visit (4 weeks after initial visit)
- Subsequent Visits
- ✓ History & Physical Assessment
- ✓ Chart Review
- ✓ Interval History

Prenatal care

Subsequent Visits

- Continue to gather data about:
 - Course & progress of the pregnancy
 - Woman's responses, discomforts & concerns
 - Adjustment of the support person, children
 - Preparations for new baby
 - Danger signs

- Education & counseling

Prenatal care

Second Trimester: Return Visits (Every 4 Weeks)

Physical Assessment

- ✓ Focused Physical Assessment: vital signs, urine, weight, fundal height, physical changes, fetal movement, Leopold Maneuver
- ✓ Edema
- ✓ Pelvic exam or sterile vaginal examination if indicated

Prenatal care

- Leopold Maneuver (palpation of the abdomen)

HOMEWORK 😊

Prenatal care

Third Trimester

- Return Visits (Every 2 Weeks Until 36 Weeks, then weekly until 40 weeks; typically twice weekly after 40 weeks)

History and Physical Assessment

- ✓ Chart review
- ✓ Nutrition
- ✓ Focused physical assessment

Major Prenatal Screening Tests

Weeks in pregnancy	Tests
1st visit	CBC, UA, ABO & Rh typing, Rubella titer, Hepatitis B surface antigen, Pap smear Syphilis, gonorrhea, sickle cell
15-20 weeks Most accurate: 18-20 wks	Maternal alpha-fetoprotein (AFP) for NTD Triple screen test (Triple marker): (levels of AFP, hCG, Estriol) Dawn syndrome (Trisomy 21), Edwards syndrome (Trisomy 13) & NTD
27-35 weeks	CBC & HCT 24-28 wks: Glucose challenge test combined with a fasting blood glucose (FBS) 35-37 wks: Group B streptococcus (GBS) vaginal swab
< 24 weeks	Ultrasound

Prenatal care

Laboratory/diagnostic studies in normal pregnancy

- Triple screen blood tests at 15–20 weeks' gestation: screening tests for neural tube defect and trisomy 21 are not diagnostic
- Amniocentesis is recommended if screening tests are positive.

- Antibody Screen if Rh-negative
- +ve indirect Coombs test indicate the development of antibodies against the baby's blood
- Administration of RhoGAM if Rh-negative
- RhoGAM is administered at 28 weeks' gestation to help prevent isoimmunization and the resulting risk of hemolytic disease in fetuses in subsequent pregnancies

Prenatal care

- RhoGAM, or Rho (D) Immune Globulin, is a sterile solution made from human blood plasma that is given to Rh-negative women in the form of an injection
- Rh is a protein most people have in their blood, on the surfaces of red blood cells
- Rh incompatibility is a mismatch between the blood of the mother and the blood of the fetus and occurs when the mother is Rh negative and the fetus is Rh positive

Prenatal care

- Triple test assesses for:
 - Appropriate levels of alpha-fetoprotein (AFP): a protein produced by the fetus
 - Human chorionic gonadotropin (hCG)
 - Unconjugated estriol (UE3): an estrogen produced by both the fetus and the placenta
- Triple test is most widely used test to screen for Down syndrome (trisomy 21)

Prenatal care

- Presence of group-B streptococcus in the vagina is group-B associated with higher incidences of neonatal streptococcus morbidity & mortality
- A positive swab will result in prophylactic, intravenous antibiotic administration to the pregnant woman

Other Prenatal Screening Tests

Hemoglobin Electrophoresis

- Indicated for women of African, Southeast Asian, and Mediterranean descent
- Evaluates for sickle cell disease & thalassemias

Responsibility of Healthcare Professionals to Parents

- Provide factual information about screening
- Discuss false-positive results & detection rates
- Describe implications of findings
- Remember parents choose course of action based on their spiritual and cultural beliefs

Learning Outcome 10-9

Assess the prenatal patient for the danger signs of pregnancy.

Danger Signs of Pregnancy

- Gush of fluid from vagina
- Vaginal bleeding
- Abdominal pain
- Fever above 38.3° C and chills
- Dizziness, blurred vision, seeing spots
- Persistent vomiting

Danger Signs of Pregnancy

- Edema
- Muscular irritability or convulsions
- Epigastric pain
- Oliguria
- Dysuria
- Absence of fetal movement

END