Chapter 10

Anatomy and Physiology of Pregnancy
Gravidity and Parity

- Understanding of following terms is essential to study of maternity care:
  - Gravida: woman who is pregnant
  - Gravidity: pregnancy
  - Multigravida: woman who has had two or more pregnancies
Gravidity and Parity—cont’d

- **Multipara**: woman who has completed two or more pregnancies to stage of fetal viability
- **Nulligravida**: woman who has never been pregnant
- **Nullipara**: woman who has not completed a pregnancy with fetus or fetuses who have reached stage of fetal viability
Gravidity and Parity—cont’d

- Parity: number of pregnancies in which fetus or fetuses have reached viability, not number of fetuses (e.g., twins) born. Whether fetus is born alive or is stillborn (fetus who shows no signs of life at birth) after viability is reached does not affect parity.

- Postdate or postterm: pregnancy that goes beyond 42 weeks of gestation.
Gravidity and Parity—cont’d

- Preterm: pregnancy that has reached 20 weeks of gestation but before completion of 37 weeks of gestation
- Primigravida: woman pregnant for first time
- Primipara: woman who has completed one pregnancy with fetus or fetuses who have reached stage of fetal viability
Gravidity and Parity—cont’d

- Term: pregnancy from beginning of week 38 of gestation to end of week 42 of gestation
- Viability: capacity to live outside uterus; about 22 to 24 weeks since last menstrual period, or fetal weight greater than 500 g
Pregnancy Tests

- Human chorionic gonadotropin (hCG) is the earliest biochemical marker of pregnancy.
- Pregnancy tests based on recognition of hCG or β subunit of hCG.
Pregnancy Tests—cont’d

- Many different pregnancy tests are available
  - Immunoassay
  - Radioimmunoassay
  - Radioreceptor assay
  - Enzyme-linked immunosorbent assay (ELISA) testing is most popular method of testing for pregnancy
    - ELISA technology is basis for most over-the-counter home pregnancy tests
Adaptations to Pregnancy

- Signs of pregnancy
- Reproductive system and breasts
  - Uterus
    - Changes in size, shape, and position
    - Changes in contractility
    - Uteroplacental blood flow
    - Cervical changes
    - Quickening
Fig. 10-4. Displacement of internal abdominal structures and diaphragm by the enlarging uterus at 4, 6, and 9 months of gestation.
Adaptations to Pregnancy—cont’d

- **Breasts**
  - Fullness, heaviness
  - Heightened sensitivity from tingling to sharp pain
  - Areolae become more pigmented
  - Montgomery’s tubercles
  - Colostrum
Adaptations to Pregnancy—cont’d

- General body systems
  - Cardiovascular system
    - Blood pressure
    - Blood volume and composition
    - Cardiac output
    - Circulation and coagulation times
Adaptations to Pregnancy—cont’d

- **General body systems**
  - Respiratory system
    - Pulmonary function
    - Basal metabolism rate
    - Acid-base balance
  - Renal system
    - Anatomic changes
    - Functional changes
    - Fluid and electrolyte balance
Fig. 10-3. Height of fundus by weeks of normal gestation with a single fetus. *Dashed line*, Height after lightening.
Adaptations to Pregnancy—cont’d

- **General body systems**
  - Integumentary system
    - Chloasma (mask of pregnancy)
    - Linea nigra
    - Striae gravidarum
    - Palmar erythema
  - Musculoskeletal system
  - Neurologic system
Adaptations to Pregnancy—cont’d

- **General body systems**
  - Gastrointestinal system
    - Appetite
    - Mouth and teeth
    - Esophagus, stomach, and intestines
    - Gallbladder and liver
    - Abdominal discomfort
  - Endocrine system
Key Points

- The biochemical, physiologic, and anatomic adaptations that occur during pregnancy are profound and revert to the nonpregnant state after birth and lactation.
Key Points—cont’d

- Adaptations to pregnancy protect woman’s normal physiologic functioning, meet metabolic demands pregnancy imposes, and provide for fetal development and growth needs.
- Maternal adaptations attributed to the hormones of pregnancy and to mechanical pressures exerted by enlarging uterus and other tissues.
Key Points—cont’d

- ELISA testing is the most popular method of pregnancy testing and the basis for OTC home pregnancy tests

- Presumptive, probable, and positive signs of pregnancy aid in diagnosis of pregnancy

- Although the pH of pregnant woman’s vaginal secretions is more acidic, she is more vulnerable to some vaginal infections, especially yeast infections
Key Points—cont’d

- Increased vascularity and sensitivity of vagina and other pelvic viscera lead to high degree of sexual interest and arousal
- Some adaptations to pregnancy result in discomforts such as fatigue, urinary frequency, nausea, and breast sensitivity
- Balance and coordination are affected by changes in joints and center of gravity as pregnancy progresses