

Final Exam Study Guide

Chapter 13

- Vocabulary

- Fetus: the stage of human gestation from eight weeks after conception until the birth of an infant.
- Embryo: the stage of human gestation from the third to the eighth week after conception.
- Fertility: the capacity of a woman to produce a normal ovum periodically and of a man to produce normal sperm; the ability to reproduce.
- Low birth weight: a birth weight of less than 5.5 pounds (2,500 grams); used as a predictor of probable health problems in the newborn and as a probable indicator of poor nutrition status of the mother before and/or during pregnancy. Low-birth weight infants are of two different types. Some are premature infants; they are born early and are the right size for their gestational age. Other low-birth weight infants have suffered growth failure in the uterus; they are small for gestational age (small for date) and may or may not be premature.
- Uterus: the womb, the muscular organ within which the infant develops before birth.
- Placenta: the organ of pregnancy in which maternal and fetal blood circulate in close proximity and exchange nutrients and oxygen (flowing into the fetus) and wastes (picked up by the mother's blood).
- Gestation: the period of about 40 weeks (three trimesters) from conception to birth; the term of a pregnancy.
- Amniotic sac: the "bag of waters" in the uterus in which the fetus floats.
- Lactation: production and secretion of breast milk for the purpose of nourishing an infant.
- Ovum: the egg, produced by the mother, that unites with a sperm from the father to produce a new individual.
- Zygote: the term that describes the product of the union of ovum and sperm during the first two weeks after fertilization.
- Implantation: the stage of development, during the first two weeks after conception, in which the fertilized egg (fertilized ovum or zygote) embeds itself in the wall of the uterus and begins to develop.
- Trimester: a period representing gestation. A trimester is about 13 to 14 weeks.
- Critical period: a finite period during development in which certain events may occur that will have irreversible effects on later developmental stages. A critical period is usually a period of cell division in a body organ.
- Neural tube: the embryonic tissue that later forms the brain and spinal cord.
- Neural tube defect (NTD): a group of nervous system abnormalities caused by interruption of the normal early development of the neural tube.
- Anencephaly: an uncommon and always fatal neural tube defect in which the brain fails to form.
- Spina bifida: one of the most common types of neural tube defects in which gaps occur in the bones of the spine. Often the spinal cord bulges and protrudes through the gaps, resulting in a number of motor and other impairments.
- Cesarean section: surgical childbirth, in which the infant is taken through an incision in the woman's abdomen.

- Prenatal: before birth
 - Special Supplemental Food Program for Women, Infants, and Children (WIC): a USDA program offering low-income pregnant women and those with infants or preschool children coupons redeemable for specific foods that supply the nutrients deemed most necessary for growth and development.
 - Environmental tobacco smoke (ETS): the combination of exhaled smoke (mainstream smoke) and smoke from lighted cigarettes, pipes, or cigars (sidestream smoke) that enters the air and may be inhaled by other people.
 - Listeriosis: a serious foodborne infection that can cause severe brain infection or death in a fetus or a newborn; caused by the bacterium *Listeria monocytogenes*, which is found in soil and water.
 - Fetal alcohol spectrum disorders (FASD): a spectrum of physical, behavioral, and cognitive disabilities caused by prenatal alcohol exposure.
 - Fetal alcohol syndrome (FAS): the cluster of symptoms including brain damage, growth retardation, mental retardation, and facial abnormalities seen in an infant or child whose mother consumed alcohol during her pregnancy.
 - Alcohol-related neurodevelopmental disorder (ARND) behavioral, cognitive, or central nervous system abnormalities associated with prenatal alcohol exposure.
 - Alcohol-related birth defects (ARBD): malformations in the skeletal and organ systems (heart, kidneys, eyes, ears) associated with prenatal alcohol exposure.
 - Gestational diabetes: abnormal glucose tolerance appearing during pregnancy.
 - Edema: accumulation of fluid in the tissues.
 - Preeclampsia: a potentially dangerous condition during pregnancy characterized by edema, hypertension, and protein in the urine.
 - certified lactation consultant: a health care provider, often a registered nurse or a registered dietitian, with specialized training and certification in breast and infant anatomy and physiology who teaches the mechanics of breastfeeding to new mothers.
 - exclusive breastfeeding: an infant's consumption of human milk with no supplementation of any type (no water, no juice, no nonhuman milk, and no foods) except for vitamins, minerals, and medications.
 - Alpha-lactalbumin: the chief protein in human breast milk. The chief protein in cow's milk is casein.
 - Lactoferrin: a factor in breast milk that binds iron and keeps it from supporting the growth of the infant's intestinal bacteria.
 - Colostrums: a milklike secretion from the breasts during the first day or so after delivery before milk appears; rich in protective factors.
 - Hypoallergenic formulas: clinically tested infant formulas that do not provoke reactions in 90% of infants or children with confirmed cow's milk allergy.
 - milk anemia: iron-deficiency anemia caused by drinking so much milk that iron-rich foods are displaced from the diet.
- Key Points
 - Adequate nutrition before pregnancy establishes physical readiness and nutrient stores to support fetal growth. Both underweight and overweight women should strive for appropriate body weights before pregnancy. Newborns who weigh less than 5.5 pounds face greater health risks than normal-weight babies. The healthy development of the placenta depends on adequate nutrition before pregnancy.

- 0 Implantation, fetal development, and early critical periods depend on maternal nutrition before and during pregnancy.
- 0 A pregnancy affected by a neural tube defect can occur in any women, but these factors make it more likely:
 - Inadequate folate intake.
 - A previous pregnancy affected by a neural tube defect.
 - Maternal diabetes (type 1).
 - Maternal use of antiseizure medications.
 - Maternal obesity.
 - Exposure to high temperatures early in pregnancy (prolonged fever or hot tub use).
 - Race/ethnicity (neural tube defects are more common among whites and Hispanics than among others).
 - Low socioeconomic status.
- 0 Pregnancy brings physiological adjustments that demand increased intakes of energy and nutrients. A balanced diet that includes more nutrient-dense foods from the five food groups can help to meet these needs.
- 0 Due to their key roles in cell reproduction, folate and vitamin B 12 are needed in large amounts during pregnancy. Folate plays an important role in preventing neural tube defects.
- 0 All pregnant women, but especially those who are less than 25 years of age, need to pay special attention to ensure adequate calcium intakes. A daily iron supplement is recommended for all pregnant women during the second and third trimesters.
- 0 Women most likely to benefit from multivitamin-mineral supplements during pregnancy include those who do not eat adequately, those carrying twins or triplets, and those who smoke cigarettes or are alcohol or drug abusers.
- 0 Food assistance programs such as WIC can provide nutritious food for pregnant women of limited financial means.
- 0 Weight gain is essential for a healthy pregnancy. A woman's prepregnancy BMI, her own nutrient needs, and the number of fetuses she is carrying help to determine appropriate weight gain.
- 0 Physically fit women can continue to be physically active throughout pregnancy. Pregnant women should be cautious in their choice of activities.
- 0 Of all the population groups, pregnant teenage girls have the highest nutrient needs and an increased likelihood of having problem pregnancies.
- 0 Food cravings usually do not reflect physiological needs, and some may interfere with nutrition. Nausea arises from normal hormonal changes of pregnancy.
- 0 Fetal effects of abused drugs:
 - Amphetamines: Suspected nervous system damage; behavioral abnormalities.
 - Barbiturates: Drug withdrawal symptoms in the newborn, lasting up to six months.
 - Cocaine: Uncontrolled jerking motions; paralysis; permanent mental and physical damage.
 - Marijuana: Short-term irritability at birth.
 - Opiates (including heroin): Drug withdrawal symptoms in the newborn; permanent learning disability (attention deficit hyperactivity disorder).
- 0 To protect their fetuses and newborns from listeriosis, pregnant women should: