Chapter 5

Pregnancy

Essential Question

How does human life begin, and how can the unborn baby be protected?

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5.1 A Baby's Beginning

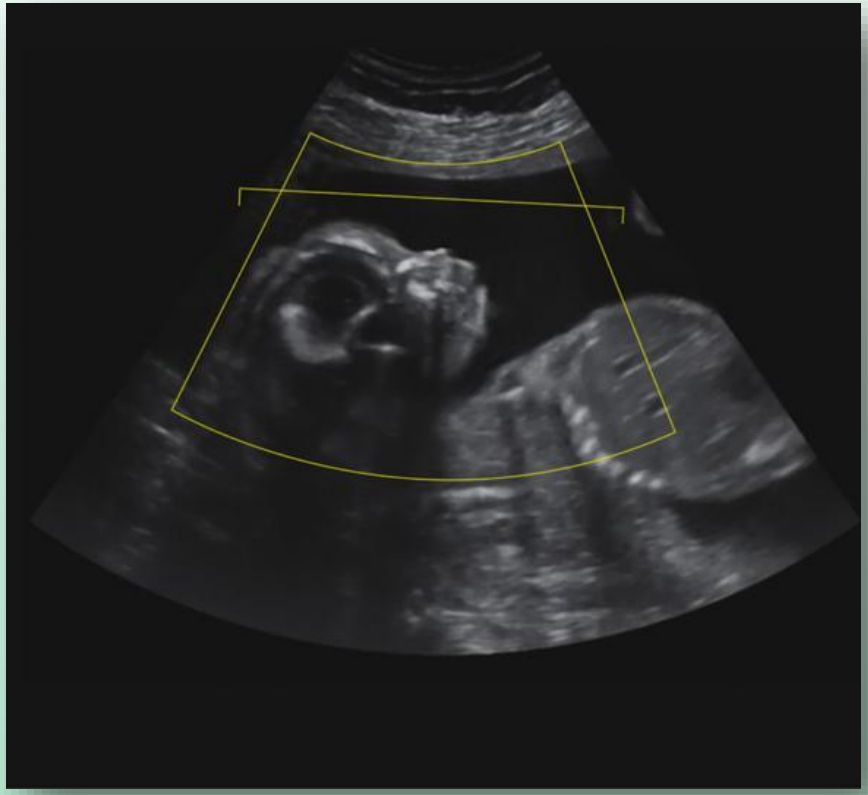
Objectives

After studying this lesson, you will be able to

- summarize the female's role and the male's role in conception.
- identify the three stages of prenatal development.
- compare and contrast changes that occur within each stage of prenatal development.
- give examples of developmental changes that occur month-by-month during the period of gestation.

Did You Know?

The prenatal period lasts 280 days (9 months) and is the shortest stage of the lifespan.



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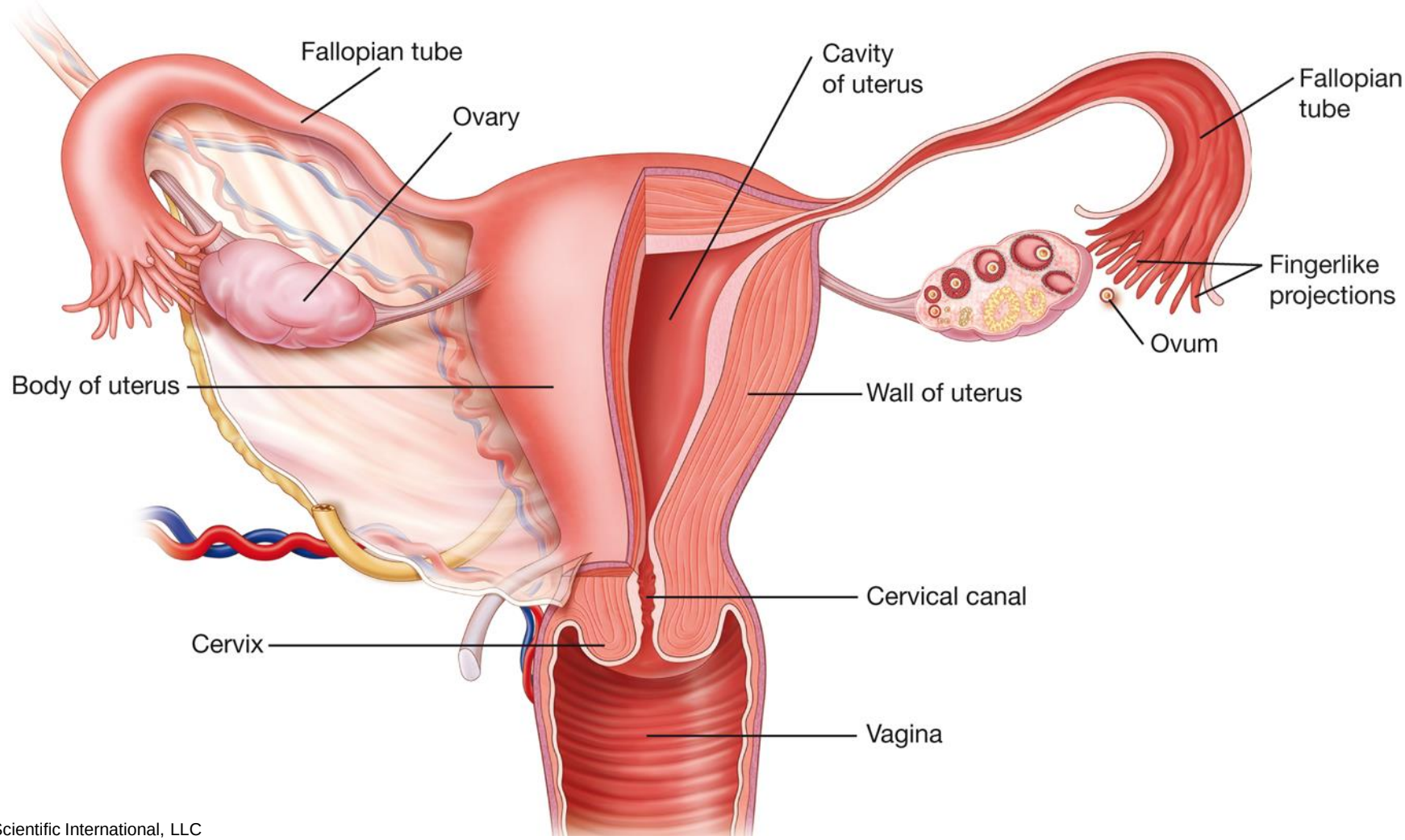
The Female's Role in Conception



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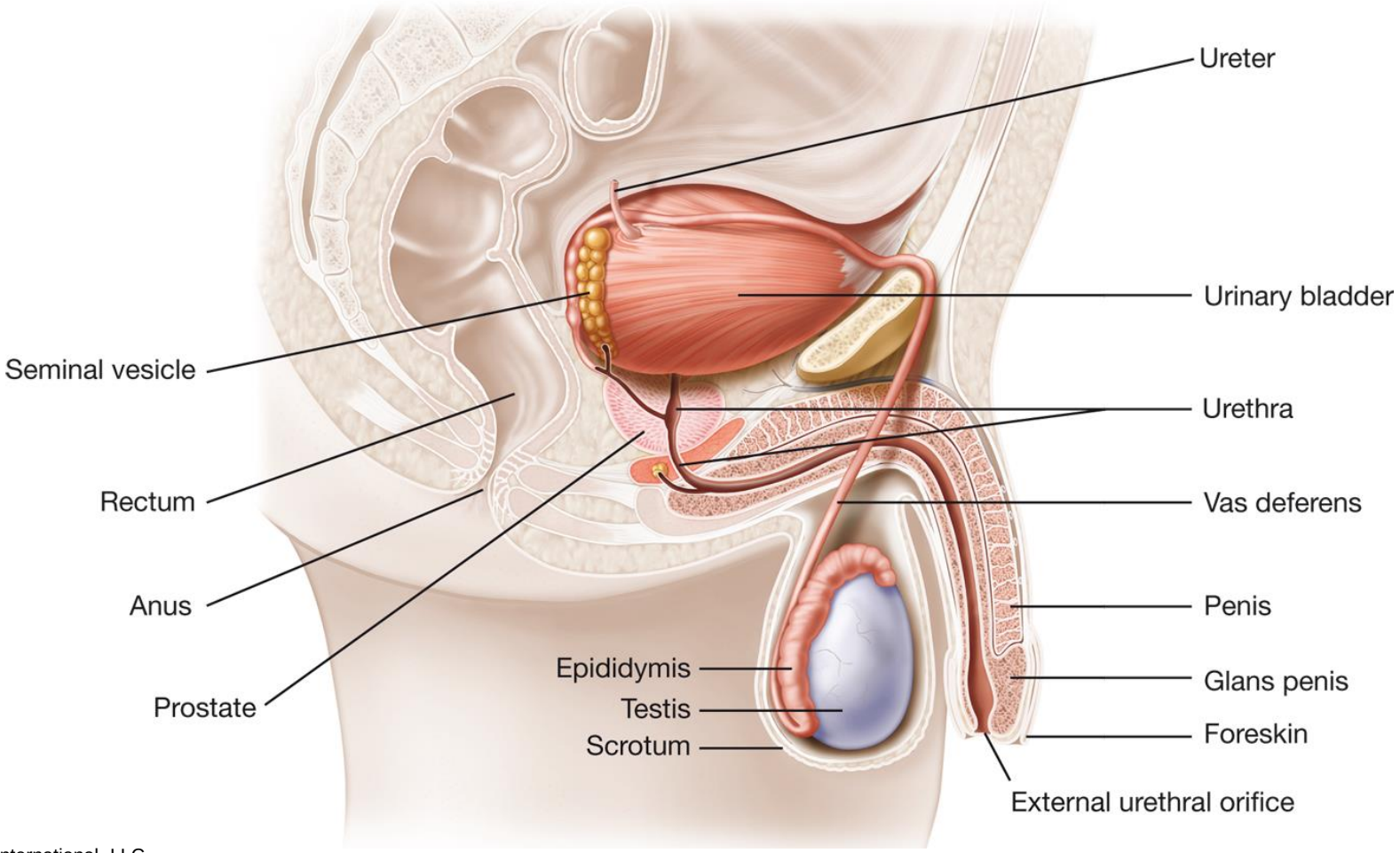
The Male's Role in Conception



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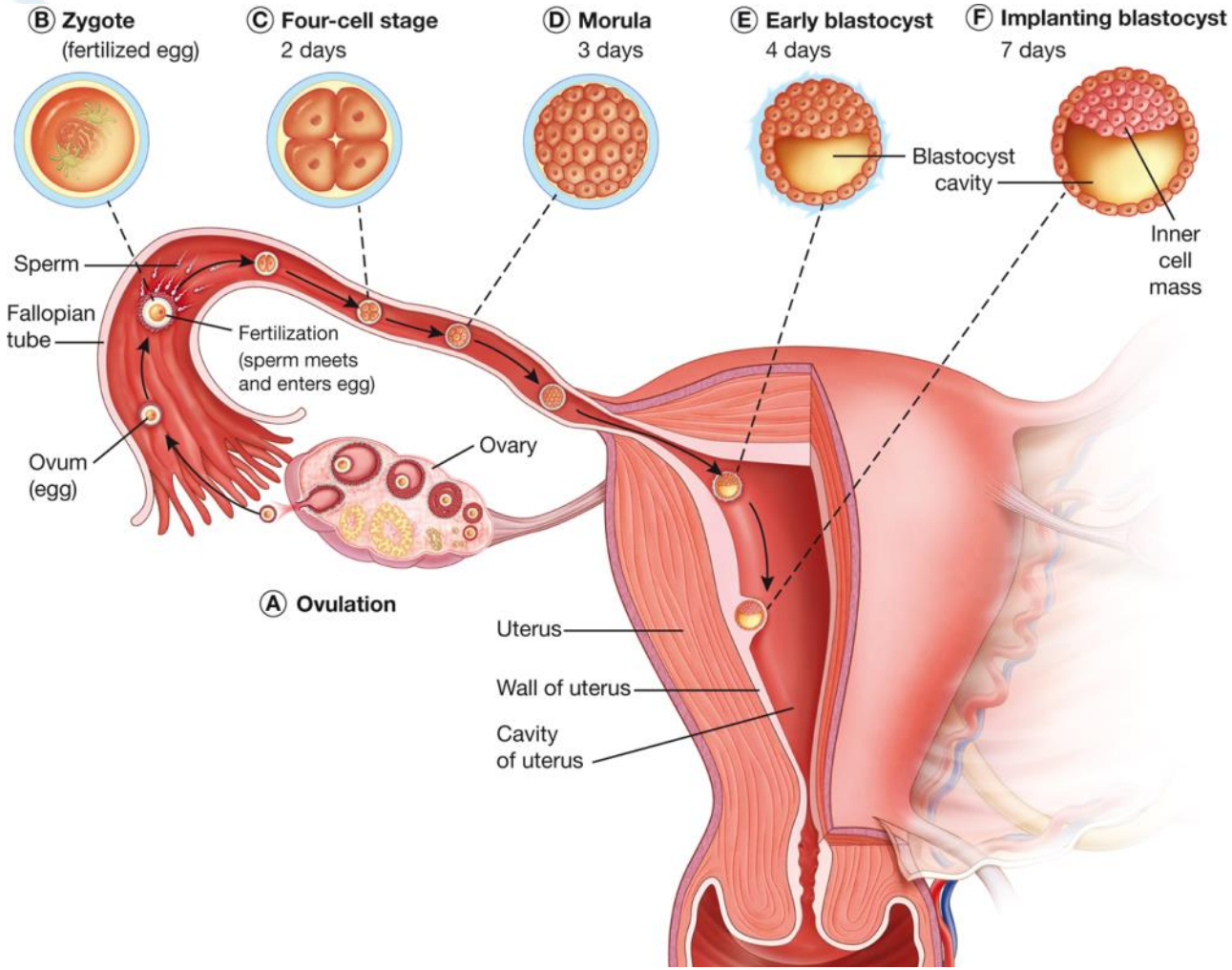
Germinal Stage



The germinal stage lasts from conception to two weeks.

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Embryonic Stage

- Lasts from 2 to 6 weeks
- Developing tissue is called an *embryo*.
- Support systems develop:
  - **chorion**—outermost membrane; protects baby
  - **amnion**—fluid-filled sac; protects baby
  - **placenta**—nourishing organ filled with blood vessels
  - **umbilical cord**—connects embryo to placenta
- Most critical stage of prenatal development

Fetal Stage

- Lasts from 9 weeks to birth
- Developing tissue is known as a *fetus*.
- Body parts mature and size increases.
- Several milestones occur:
  - heartbeat (16 weeks)
  - Quickening-movements by the fetus that can be felt by the mother18–20 or 15–17 weeks)
  - age of viability- Time from when a baby can survive if born early (23 weeks)

5.2 Factors That Affect the Unborn Baby

Objectives

After studying this lesson, you will be able to

- summarize how genetic factors affect prenatal development.
- describe how a person inherits traits through genes.
- differentiate between dominant traits and recessive traits.
- explain the role of the environment on prenatal development and give examples of environmental factors that can harm the fetus.

Genetic Factors

- **Genetic factors**—a person's inherited traits
- **Genome**—genetic blueprint that guides growth and development
- **Epigenome**—turns genes on or off, impacting their function

Heredity and Genetics

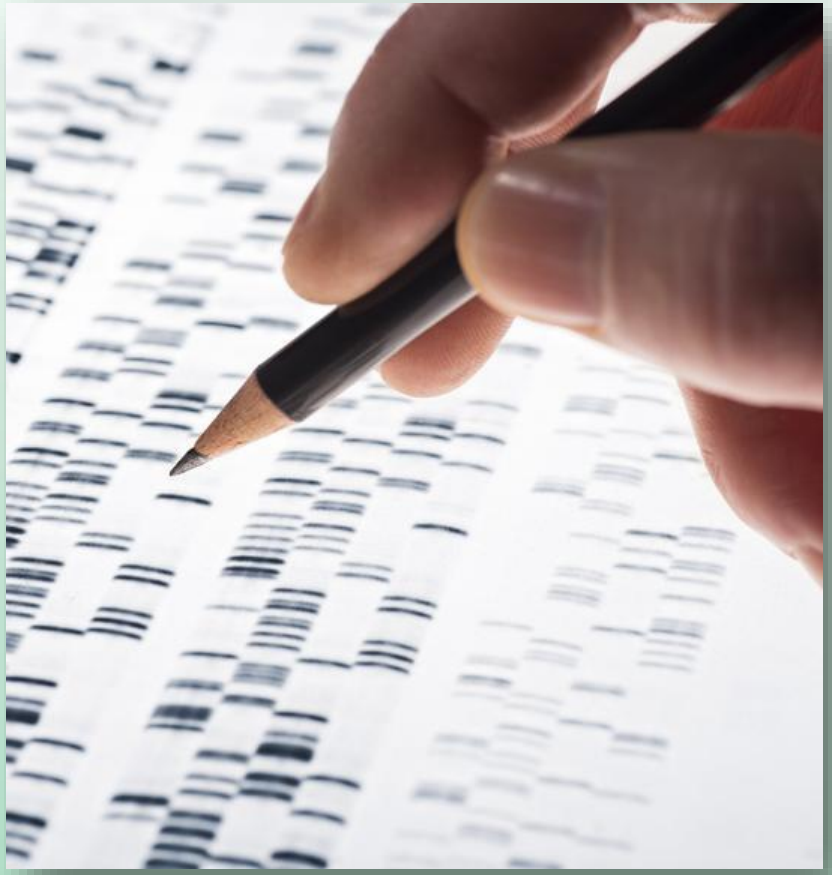
- **Nucleus**—center of each cell that contains genetic material
- **Genetic code**—instructions to develop a human being; stored in DNA
- **Chromosomes**—chemical compounds that carry DNA; 23 from each parent for a total of 46

Dominant and Recessive Traits

- **Dominant traits**—always expressed if inherited
- **Recessive traits**—not typically expressed unless both genes for the trait are inherited
- A person who inherits only one recessive gene for a trait becomes a *carrier* of that trait.

Did You Know?

Most traits involve multiple gene pairs and thus do not follow a simple principle of being dominant or recessive.



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Sex Chromosomes

- **Sex chromosomes**—determine a person's gender
  - Females have the XX chromosome pair.
  - Males have the XY chromosome pair.
- **Sex-linked traits**—determine traits depending on the unmatched fourth leg of the male's X chromosome

Genetic and Chromosomal Disorders

- **Genetic disorder**—defect caused by one or more abnormalities in the genome; for example, Huntington's disease
- **Chromosomal disorder**—defects in the chromosomes; for example, Down syndrome

Environmental Factors

- The prenatal environment is the mother’s body.
- Any substance ingested by the mother also reaches the developing baby.
- Factors include:
  - parents’ ages
  - mother’s physical health
  - mother's emotional health

Mother's Physical Health

- **Illnesses and diseases**—including diabetes, pregnancy-induced hypertension, Rh factor, sexually transmitted infections, and rubella
- **Drugs and alcohol**—including nicotine, alcohol, medications, and illegal drugs

Mental Health Advisory

Unborn babies who receive excessive stress hormones from their mothers' bodies may lack the skills to calm themselves. This is one way the mother's emotional health affects the unborn baby.

5.3 Health Habits Prior to and During Pregnancy

Objectives

After studying this lesson, you will be able to

- analyze the importance of good health habits prior to pregnancy.
- differentiate between presumptive and positive signs of pregnancy.
- explain the relationship between the health of the mother and the health of the baby.

(Continued)

Objectives

After studying this lesson, you will be able to

- assess medical and nutritional needs during pregnancy.
- describe how health practices, such as physical activity, hygiene, and rest and sleep, affect the mother and developing fetus.

Health Habits Prior to Pregnancy

- annual medical exams
- physical activity
- nutritious food choices
- a healthy weight
- minimal stress
- plenty of sleep
- avoiding high-risk behaviors, such as smoking, drinking, or abusing drugs

Review

What is the difference between presumptive signs and positive signs of pregnancy?

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Health Habits During Pregnancy

- Medical care
- Nutrition
- Weight gain
- Physical activity and exercise
- Hygiene practices
- Rest and sleep

Medical Care During Pregnancy

- **Obstetrician**—doctor who specializes in pregnancy and birth
- Initial and follow-up appointments
- Prenatal testing, including
  - blood tests
  - ultrasound
  - chorionic villus sampling (CVS)
  - amniocentesis

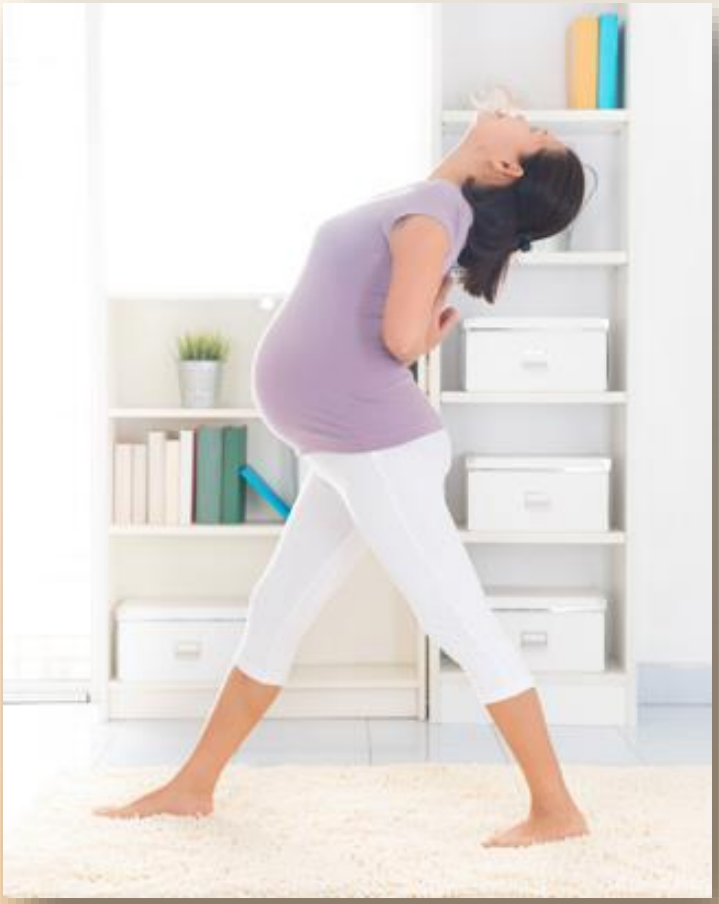
Weight Gain During Pregnancy

- **Underweight women**—28 to 40 pounds
- **Healthy-weight women**—25 to 35 pounds
- **Overweight women**—15 to 25 pounds
- **Obese women**—11 to 20 pounds

What Would You Do?

An acquaintance tells you that because she is pregnant, she does not have to exercise now.

How would you respond to your acquaintance?



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