• Chapter 11
• Nutrition in Infancy, Childhood, and Adolescence
• Chapter 11
  Lesson 11.1
• Key Concepts
• Normal growth of children varies within a relatively wide range of measures.
• Human growth and development require both nutrition and psychosocial support.
• Life Cycle Growth Pattern
• Infancy: First year of life
• Childhood: Between infancy and adolescence
• Adolescence: Onset of puberty
• Adulthood: Physical maturity
• Measuring Childhood Growth
• Growth rates vary
• Physical growth measured by growth charts of height, weight, head circumference, body mass index
• Psychosocial development includes attitudes toward food
• CDC Growth Chart
• Nutritional Requirements for Growth
• Energy needs in kilocalories
• Macronutrients
Carbohydrates as main energy source

Protein for building tissue

Fat for back-up energy and essential fatty acids

Nutritional Requirements for Growth, cont’d

Water

Metabolic needs, especially during periods of rapid growth

Infants require more water per unit of body weight than do adults

Minerals and vitamins

Calcium

Iron

Nutritional Requirements for Growth, cont’d

Example: Total daily caloric intake for a typical 5-year-old is spent in the following way:

Basal metabolism 50%

Physical activities 25%

Tissue growth 12%

Fecal loss 8%

Metabolic effect of food 5%

Needs in Infancy

Adequate weight

Low birth weight: <2500 g (5 lb)
Very low birth weight: <1500 g (3 lb)

Extremely low birth weight: <990 g (2 lb)

• Gestational age
  • Immature
    • Types of milk
    • Methods of feeding
  • Full term

• Needs in Infancy, cont’d

• Breastfeeding is ideal
  • Nutrients easily absorbed
  • Supports immunity
  • Mother-child bonding

• Needs in Infancy, cont’d

• Bottle feeding
  • Choosing a formula
  • Preparing the formula
  • Feeding the formula
  • Cleaning bottles and nipples

• Needs in Infancy, cont’d

• Weaning

• Cow’s milk
Should never be fed to infants

Solid food
  Can be introduced at 6 months

Chapter 11
  Lesson 11.2

Key Concepts

Human growth and development require both nutrition and psychosocial support.

A variety of food patterns and habits supplies the energy and nutrient requirements of normal growth and development, although basic nutrition needs change with each growth period.

Needs in Childhood

Toddlers (1 to 3 years)
  Eat less food at times

Preschoolers (3 to 5 years)
  Grow in spurts
  Group eating for socialization

School-age children (5 to 12 years)
  Slow, irregular growth
  Breakfast is important

MyPyramid for Kids

Childhood Nutrition Problems

Failure to thrive
— Clinical disease
— Neuromotor difficulties
— Dietary practices
— Unusual nutrient needs or losses
— Psychological difficulties

• Childhood Nutrition Problems, cont’d
• Anemia
  — More common in formula-fed infants
  — Milk anemia
• Obesity
  — On the rise for children and adolescents
  — Factors: high-fat foods, overeating, low physical activity
• Lead poisoning

• Needs in Adolescence
• Physical growth
  — Rapid growth during onset of puberty
  — Boys and girls differ in fat, muscle gain
  — Risk of obesity continues
• Eating patterns
  — Influenced by rapid growth, peer pressure
— Alcohol abuse
— Pressure to be thin

• Needs in Adolescence, cont’d
• Eating disorders a problem for girls and boys
  — Pressures to control figure
  — Result in “crash” diets
  — Self-starvation
    • Anorexia nervosa, bulimia
    • Youngsters see themselves as “fat”
    • Early detection and intervention critical

• Summary
• Growth and development of healthy children depend on optimal nutrition support.
• Optimal nutrition depends on social, psychological, cultural, and environmental influences.
• Nutrition needs change with each unique growth period.
• Infants experience rapid growth.
  — Human milk is encourage as first food, with solid foods delayed until approximately 6 months of age

• Summary, cont’d
• Toddlers, preschoolers, and school-age children experience slow and irregular growth
  — Energy demands are less
  — Still require a balanced meal plan
Social and cultural factors play a role

- Adolescents
  - Large growth spurt before adulthood
  - Increased calorie and nutrient demands
  - Social pressures