Learning Objectives

• Describe the normal vital signs and body system characteristics of the newborn, neonate, infant, toddler, preschooler, school-age child, adolescent, young adult, middle-age adult, and older adult.

• Identify key psychosocial features of the infant, toddler, preschooler, school-age child, adolescent, young adult, middle-age adult, and older adult.

Learning Objectives

• Explain the effect of parenting styles, sibling rivalry, peer relationships, and other factors on a child’s psychosocial development.

Newborn

• Neonate, younger than 28 days
• Infant, 28 days to 1 year of age
Why do you think there is a need for the three terms *newborn*, *neonate*, and *infant*?

**Newborn Vital Signs**

- First 30 minutes of life, infant heart rate is 100 to 200 beats/minute (bpm)
  - 1 year, average is 120 bpm
- At birth, respiratory rate is 40 to 60 breaths/minute
  - Drops to 30 to 40 breaths/minute few minutes after delivery
  - 1 year, 25 breaths/minute is normal
Newborn Vital Signs

- Average systolic BP
  - 70 mmHg at birth
  - 90 mmHg at 1 year
- Infancy body temperature 98° to 100°F (36.7° to 37.8°C)

Newborn Weight

- Full-term 3 to 3.5 kg (7 to 8 lbs)
- Head accounts for about 25% of total body weight, circumference equals baby’s chest

- First few days of life, weight may deasece 5% to 10%, excretion of extracellular fluid
  - Second week of life, weight regained, weight exceeds newborn weight
  - Most gain average 140 to 168 g (5 to 6 oz) per week
  - Weight increase should follow steady upward curve, about 30 g (1 oz) per day during first month
  - Monitor, keep track of development
What considerations for patient care are necessary based on the size of the infant’s head?

Newborn Cardiovascular System

- Physiological changes to survive outside womb
  - Cardiovascular system must work apart from maternal circulation

Newborn Cardiovascular System

- Structures unique to fetal circulation constrict, close permanently within first year of life
  - Results in increase of systemic vascular resistance, increase in aortic, left ventricular, left atrial pressures
  - Pulmonary vascular resistance decreases, baby begins breathing, lungs expand, reduces pulmonary arterial, right ventricular, right atrial pressures
  - Heart’s left ventricle becomes stronger in first year
Newborn Respiratory System

• Fetal lungs fluid filled
  – During delivery, thorax compressed, lung fluid drained as newborn gasps air
  – Remaining lung fluid absorbed via lymphatic, pulmonary circulations
  – Strong first breaths open alveoli, allow subsequent respirations to occur more easily
  – Principle support of chest wall comes from muscles rather than bones

Newborn Respiratory System

• Accessory muscles immature, tire easily
  – Normal practice using these muscles increases susceptibility to accumulation of lactic acid in blood
• Collateral ventilation between alveoli, bronchioles decreased because fewer alveoli

Newborn Respiratory System

• Short, narrow airways less stable than in adults
• Breathing primarily though nose during first month
• Infection, stress, breaths more rapid, may quickly lose body heat, fluids
Newborn Nervous System

• Newborn responds to variety of stimuli, has range of reflexes
• Reflexes essential to life outside womb
• Breathing, eating reflexes
  – Airway obstruction may trigger sneeze, cough
  – Facial stimulation causes sucking movements, turning of head toward touch

Newborn Nervous System

• Stress, discomfort reflexes
  – Crying may indicate hunger, pain, heat, cold discomfort
• Some reflexes appear to no longer have any useful purpose, gradually disappear during first few months
  – Babinski reflex
  – Moro reflex
  – Palmar grasp

What should you notice about a baby’s cry while performing your assessment on an emergency call?
Newborn Nervous System

• Sleep important to normal brain functioning
  – Newborns average 16 to 18 hours/day
  – Sleep, wakefulness, evenly distributed over 24 hours
  – Sleep pattern gradually decreases, 14 to 16 hours/day with 9 to 10 hours concentrated at night

Newborn Nervous System

• First year, brain and nervous system gradually mature
• Posterior fontanel remains open until age 3 months, room for brain growth
  – Unclosed joints between skull bones
• Anterior fontanel remains open 9 to 18 months after birth
  – Level with, slightly below skull surface
  – Good indicator, adequate hydration
Newborn Nervous System

- End of first year, mature nerve development complete
- End of first year, muscles matured enough for standing, walking with little or no assistance

Newborn Musculoskeletal System

- Fingers, only hard bones at birth
- Long bones mature, hormones act on cartilage in epiphyses of growing bones
  - Result in deposition of calcium salts, replacement of soft cartilage with hard bone
  - Epiphyseal plate lengthens, bones thicken, new bone layers deposited on existing bone
Newborn Musculoskeletal System

• Bone growth influences
  – Genetics
  – Production of growth hormone, thyroid hormone
  – Nutrition
  – General health status

Newborn Musculoskeletal System

• Muscle weight 25% of entire system
• Motor control moves head to toe, core to periphery
  – Should lift head before sitting
  – Should crawl before walking
• Arms, legs proportionately smaller, change throughout life span
Newborn Immune System

- Born with passive immunity
  - Enough natural immunity to protect until able to make own antibodies
  - Arises from mother’s antibodies, passed through blood, mother’s milk
  - Lasts about 6 months after birth, then interval, immunizations against disease are recommended

Newborn Metabolism

- Rates much higher than older children, adults
- Consume more fluids, calories, minerals, vitamins per pound
- Lose more fluid from respiratory system, integumentary system than older children
  - Predisposes newborns to dehydration
  - Increases risk of heat-, cold-related illnesses

Other Developmental Milestones

- Depends on interaction of heredity, environment
- Growth, development compared with standard growth charts showing norms
Newborn Psychosocial Development

- Relationship with caregiver, mother, major development factor
  - Main comfort source
  - Caregiver represents main means of coping with environmental stress, fear, pain, anxiety

Erik Erikson’s Theory

- Human development, interaction between person’s genes, environment
- Life moves through series of overlapping stages
- Each stage marked by crisis that must be resolved
- Most critical stage, infancy (up to 1½ years), trust versus mistrust
  - Infant knowledge of surroundings safe, predictable
  - Causes, effects anticipated

Newborn Temperament

- Person’s behavior style
  - Person’s interactions with environment
  - Basis on which children form relationships
  - Behavioral traits seen at 2 to 3 months of age, define general types of temperament
Newborn Temperament

• Easy children
  – Regularity of bodily functions, low to moderate reaction intensity
  – Accept new situations rather than withdraw
  – 40% are this type
• Difficult children
  – Irregularity of bodily functions, intense actions
  – Withdraw from new situations
  – High activity level, increased injury risk
  – 10% are this type

Newborn Temperament

• Slow-to-warm-up children
  – Low reaction intensity, somewhat negative mood
  – Adjust slowly to new situations
  – 15% are this type
• 35% do not fit any type

Newborn Temperament

• Basis for early social interaction
  – Temperament, responses to temperament obtained from adults
• Reciprocal socialization
  – Early social interactions, child’s interactions with others, environment

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Newborn Temperament

• First interactions combined with developmental changes lead to specific relationships
  – First few weeks of life, not affected much by adult’s appearance, except when fed
  – Fourth week, begin to direct actions at adults, emotional reactions appear, obvious signs of pleasure at sight and sound of adults, especially females

Newborn Temperament

• Second month, more complex, sensitive reactions—smiling, vocal sounds aimed at mother, animated behavior shown
• Third month, has formed need for social interactions
  – Need continues to grow, is nourished until end of second/beginning of third year, then need for peer interaction develops

Newborn Temperament

• Growth brings more complex interactions
• Attachments, bonding between infant, family members
  – Four months, perceptual discrimination, visually tracks mother
  – Nine months, separation, stranger anxiety, cries when mother leaves
Newborn Temperament

- True attachment separation from parent may result in series of behaviors
  - Protest, loud crying, extreme restlessness, rejection of all adults
  - Despair, nonstop crying, inactivity, withdrawal
  - Detachment, renewed distant interest in surroundings, even if mother comes back

Newborn Temperament

- Some psychologists believe attachments continue through life
- When possible, parent should hold child during assessment
  - Child, parent less anxious
  - Performing assessment is easier when child is calm

Toddler, Preschool Years

- Toddlers: 1–3 years
- Preschoolers: 3–5 years
Toddler, Preschool Years

• Vital Signs
  – Toddler heart rate is 80 to 130 bpm, preschoolers 80 to 100 bpm
  – Respirations for toddlers, preschoolers average 20 to 30 breaths/minute
  – Normal systolic BP for toddlers 70 to 100 mmHg, preschoolers 80 to 100 mmHg
  – Normal temperature both ages, 96.8° to 99.6°F (36° to 37.6°C)

Toddler, Preschooler Body Systems

• Cardiovascular system
  – Capillary beds become better developed, able to assist in thermoregulation
  – Hemoglobin approaches adult level
### Toddler, Preschooler Body Systems

**Respiratory system**
- Ear, nose, throat structures similar to infants, infants at greatest risk of serious respiratory illness
- Repeated upper respiratory tract infections may occur, rarely indication of underlying disease
- Use of respiratory muscles changes, primarily abdominal to chest

**Nervous system**
- Myelination, maturation of nerve cells, begins in third trimester, continues 10 to 12 years
- Eventually provides smooth flow of neural impulses throughout the brain, increases cognitive development
- Nervous system mostly developed by age 2
- Brain weight 90% of adult brain
- Visual acuity 20/30
- Hearing matures at age 3 to 4

**Musculoskeletal system**
- Muscle mass, bone density increase
- Most have normal gait by age 2
- Fine motor skills evident

**Immune system**
- Passive immunity no longer protects
- More susceptible to minor respiratory, gastrointestinal infections
Toddler, Preschooler Body Systems

- Endocrine system
  - Organs mature, increase production of growth hormone, insulin, corticosteroid
  - Gain average 2.9 kg (6.5 lbs) a year
- Renal system
  - Age 2, kidneys well developed
  - Begin to gain control of bladder, bowel functions
  - Specific gravity, measure concentrating ability of kidneys similar to adults

Toddler, Preschooler Psychosocial Systems

- Age 2, unique personality traits, moods developed
- Age 3, basic language skills mastered
  - Refinement continues throughout childhood
- Can recognize difference between men, women
  - Model themselves after own gender

The next time you are with a toddler, pay attention to his or her temperament. Is the toddler easy, difficult, or slow to warm up? How do you think each temperament could affect your ability to care for the child in an emergency?
Reassuring and nonthreatening language should be used when treating toddlers and preschoolers. Consider how a 3-year-old might interpret statements such as, “I’m going to give you a shot” or “You’ll feel a stick in your arm.”

Parenting Patterns

• Authoritarian
  – See obedience as virtue
  – Conflicts result in punishment
  – Children not given much freedom, independence
  – Children’s traits: low achievement motivation, shyness, hostility, low self-esteem

• Authoritative
  – Rules must be followed, children are given reasons for rules
  – Children allowed to express their viewpoint, parents have final say
  – Encourages independence in children
  – Produces most successful children, responsible, assertive, self-reliant, high self-esteem
Parenting Patterns

- Permissive
  - Children give a lot of freedom
  - Parents are tolerant, accepting of children's behavior, including aggressive, sexual urges
  - Parents demand very little, view role as helping, serving child
  - Children's traits similar to authoritarian
  - Children are not especially independent, cooperative, assertive
  - Often discontented, distrustful, self-centered, low self-esteem

Sibling Rivalry

- First born has special relationship with parents
  - Expected to show self-control, responsibility when interacting with younger children
  - Stricter, more demanding, less consistent
  - Spend more time with first born
- Each child's characteristics influence sibling rivalry
  - Fussy, easily bored, frustrated
  - Family function, how family deals with problems, conflicts in a respectful, productive, nonaggressive way

Sibling Rivalry

- Disputes can promote crucial skills
  - Value another person’s point of view
  - Compromise, negotiate
  - Control aggressive impulses
Peer Relationships

• Offer source of information about the world from outside family
• Leads to exposure to other family types
• Peer bonds formed with others near the same age, maturity
• Often begin during play

Peer Relationships

• Allows development of the ability to play simple, competitive games with rules, leads to problem-solving skills, cognitive development
  – Fosters interpersonal relationships
• End of preschool period, form lasting friendships
• Importance increases throughout childhood

Divorce

• Half of first marriages end in divorce
• Effect on children depends on
  – Child’s age
  – Cognition
  – Social competencies
  – Child’s sense of dependence on, independence from parents
Divorce

• Higher rate of behavior problems results in conflicts, stress
  – Social, economic, emotional turmoil, loyalty conflicts
  – Reaction to loss of parent who leaves
  – Change in custodial parent’s behavior toward child
  – Day care type attending as result of divorce

Divorce

• Common reactions
  – Depression
  – Withdrawal
  – Fear of abandonment
  – Fear parents no longer love them
• Parent’s ability to recognize, respond is important

Exposure to Aggression, Violence

• May increase acceptance of this type of behavior
• May model behavior after activities of television shows, video games
Lesson 12.2
School-Age Children and Adolescents

Learning Objectives

• Describe the normal vital signs and body system characteristics of the newborn, neonate, infant, toddler, preschooler, school-age child, adolescent, young adult, middle-age adult, and older adult.

• Identify key psychosocial features of the infant, toddler, preschooler, school-age child, adolescent, young adult, middle-age adult, and older adult.

School-Age Years

• 6 to 12 years
  – Heart rate 70 to 110 bpm
  – Respiratory rate 20 to 30 breaths/minute
  – Systolic blood pressure 80 to 120 mmHg
  – Temperature average 98.6°F (37°C)
School-Age Body Systems

- Growth slower, steadier than infancy, toddler, preschool years
  - Gain average 6.6 cm (2.5 in) in height per year
  - Most bodily functions reach adult levels
- Nervous system
  - 95% of skull's growth complete by age 10
  - Skills, abilities more varied
  - Brain function increases in both hemispheres
    - Concentration, learning ability develop rapidly

School-Age Body Systems

- Reproductive system
  - Becomes active at puberty
  - Brought about by increasing levels of sex hormones
  - Both genders, levels increase before external signs appear
  - Timing varies greatly, girls start average 2 years (between ages 8 and 13) before boys (between ages 13 and 15)
School-Age Body Systems

- Lymphatic system
  - Key role in fighting disease, infection
  - Undergoes many changes throughout growth until puberty when growth slows
  - Until puberty, lymphatic tissues in school-age children are proportionally larger than in adults

School-Age Psychosocial Development

- World expands outward from family
- Relationships formed with friends, teachers, coaches, caregivers, others

School-Age Psychosocial Development

- Interactions increase, begin to compare themselves with others, develop self-concept
  - Situations can create stress, affect self-esteem
  - Self-esteem based on external factors, such as popularity, rejection, emotional support, is higher in early school age years
  - Low self-esteem has damaging effects on later development
School-Age Psychosocial Development

- Development individually varies
  - Mature, immature
  - Behavior may depend on mood, experience with various types of people
  - Face normal challenges in daily life
  - Fear new situations, peer pressure, predictable stressors

School-Age Psychosocial Development

- Moral development occurs through experience
  - Behavior control shifts from external sources (what parents believe is right, wrong) to more internal self-control (justify morality of choices)

What type of unintentional injuries would you expect in children of this age group as they become more independent?
Adolescence

• Age 13 to 19
• Normal vital signs
  – Heart rate 55 to 105 bpm
  – Respirations 12 to 20 breaths/minute
  – Systolic blood pressure 100 to 120 mmHg
  – Temperature 98.6°F (37.6°C)

Adolescence

• Final phase of growth change, development
  – Organs rapidly increase in size: heart, kidneys, spleen, liver
  – Blood chemistry values nearly the same as adults
  – Sebaceous gland activity causes skin to toughen
  – Bone growth, muscle mass nearly completed, two- to three-year growth spurt
Adolescence

• Reproductive maturity
  – First external puberty sign in girls, nipple change, breast bud
  – Pubic hair, underarm hair grow, breasts enlarge
  – About two years after breast bud appearance, body fat reaches 18% to 20% of body weight, menarche occurs

Adolescence

• Reproductive maturity
  – Endocrine changes cause release of gonadotropin, luteinizing hormone, follicle-stimulating hormone
    • Promote estrogen, progesterone production
    • Progesterone affects breast development, menstrual cycle
    • Estrogen causes development of female secondary sex characteristics
    • Subcutaneous fat, breasts, thighs, buttocks
    • Axial, pubic hair
    • Promotes endometrium buildup in uterus

Adolescence

• Boys: gonadotropin promotes testosterone production
  – Testosterone, hormone produced by testes
  – Causes development of male secondary sex characteristics
    • Scrotum changes color, texture
    • Testes increase in size
    • Penis enlarges
    • Pubic hair grows
    • Voice deepens
    • Facial, underarm, chest hair appear
    • Age 14, first semen ejaculation during masturbation, sleep
Adolescence

• Development of secondary sex characteristics, both genders, coincides with last rapid growth period
  – Rapid growth preceded by increase in body fat
  – Fat decreases during growth, increases in later years
  – Girls retain more fat in subcutaneous tissue areas, breasts, thighs, buttocks
  – Boys gain average 20 cm (8 in) in height before age 21, when growth usually stops

Adolescence

• Development of secondary sex characteristics, both genders, coincides with last rapid growth period
  – Girl’s growth, less dramatic, complete by age 18
  – Hands, feet grow first
  – Arms, legs begin lengthening, shoulders become broader
  – Trunk grows last, upper, lower jaw bones also grow
  – Face changes dramatically within short time, especially in boys

Adolescence

• Psychosocial development
  – May “try on” identities
  – Develop adult personality
  – Express independence
  – Draw away from parents, conflicts
  – Emotionally move toward peers
  – Friendships with others may influence behavior
It may be best to interview the adolescent and the parents separately. Why might this be important?

Adolescence

- Psychosocial development
  - Friendships with others, also trying various identities may result
    - Use alcohol, drugs
    - Sexual experimentation
    - Extreme behavior, dress
    - Antisocial behavior peaks in eighth, ninth grade

Adolescence

- Concerns about appearance for both boys, girls
  - Comparisons made
  - Body image concerns, weight issues, body odor, acne, dandruff
  - Associated hormonal changes
    - Eating disorders common, especially in girls, may lead to bulimia, anorexia nervosa, severe depression
    - Depression, suicide more common than in any other age group
Lesson 12.3
Adulthood

Learning Objectives

• Describe the normal vital signs and body system characteristics of the newborn, neonate, infant, toddler, preschooler, school-age child, adolescent, young adult, middle-age adult, and older adult
• Identify key psychosocial features of the infant, toddler, preschooler, school-age child, adolescent, young adult, middle-age adult, and older adult
• Discuss the physical and emotional challenges faced by the older adult

Early Adulthood

• 20-40 years
• Average vital signs
  – Heart rate 70 bpm
  – Respirations 16 to 20 breaths/minute
  – Blood pressure 120/80 mmHg
  – Body temperature 98.6°F (37°C)
Early Adulthood

- Reaching physical peak
  - Achieved between age 19 and 26
  - Lifelong habits, routines develop
  - Body systems at optimal performance
  - Pregnancy most likely to occur
- Aging process begun
  - Slowed reaction times
  - Hearing loss
  - Vision deficiencies
  - Good health-centered lifestyle, physical fitness
  - Unintentional injury is leading cause of death

Early Adulthood Psychosocial Development

- Ability to love well developed
- Newly formed families bring new challenges, stresses
  - Highest levels of job stress
- Fewer psychological issues related to well-being arise
Early Adulthood Psychosocial Development

- Most focus attention career, family
  - Selecting mate
  - Learning to live with marriage partner
  - Raising children
  - Managing a home
  - Finding a congenial social group
  - Developing adult leisure-time activities
  - Selecting a secure, stable occupation
  - Establishing, maintaining economic standard of living

Middle Adulthood

- Age 41 to 60
- Average vital signs same as early adulthood
  - Body systems continue to work at high level

Middle Adulthood

- Physiological aging aspects are more obvious
  - Cardiovascular health concern
  - Hearing, vision changes
  - Periodontal disease may develop
  - Weight control difficult
  - Cancer more prevalent
  - Menopause, between age 45 and 55, marks end of reproductive capacity
Middle Adulthood Psychosocial Development

- Generally a productive time, social, professional recognition
- Period of financial security
- Sense time pressure to meet lifelong goals
- Common stresses, financial commitments, care for elderly parents, young adult children, moved out, on own, empty nest syndrome

Middle Adulthood Psychosocial Development

- Midlife crisis
  - Make sudden, sometimes irrational changes, similar to teenagers
    - Health worries
    - Aging, physical appearance
    - Change level of sexual activity with spouse
  - Most approach problems as challenges, not threats, with important goals
    - Help children be responsible, happy adults
    - Accept, adjust to aging parents
    - Accept physiological changes
Late Adulthood

- Age 61+
- Vital signs depend on health status
  - Affected by physiological changes in body systems
  - Life span determined by health, genetics, other factors
    - Theoretical maximum life span, 120 years

Late Adulthood Body Systems

- Changes vary from person to person, organ to organ, function to function
  - Some changes dramatic, gradual
  - Some functions remain constant well into old age
  - Variation seen in number systems
    - Decreased cardiac output, ability to metabolize carbohydrates becomes evident early on
    - Changes in skin texture, hair color
    - Nerve conduction speed, manufacture of red blood cells do not decline until old age
Late Adult Psychosocial Development

- Society's attitude toward age enhances, detracts older person's sense of self-worth
  - Some cultures credit wisdom to age
  - Others consider elderly a burden
  - Those enjoying good health, retirement find happiness, personal fulfillment
  - Others have financial burdens, physical, emotional challenges
Late Adult Psychosocial Development

- Financial burdens
  - Most accept, adjust to retirement, adjust to reduced income
  - New issues
    - Must pay for health care
    - May establish new living arrangements
    - 95% live in their homes, choose not to live in nursing homes, assisted care homes
    - Financial requirements can burden older adult, family, health insurance, medications
    - 2007, 3.6 million older adults were living below the poverty level, more than 2 million considered “near-poor”

In an older patient’s home, what clues may indicate that the person is under a financial strain or burden?

You respond to a call at 0400 for a 65-year-old man who is having signs and symptoms of a stroke. He tells you he has high blood pressure but hasn’t taken his medicine for weeks because he couldn’t afford it. How will that make you feel?
Late Adulthood Psychosocial Development

• Physical, emotional challenges
  – Commonly faced emotional dilemmas
    • Accepting cognition decline
    • Dealing with companion dying, death
  – Aging does not always mean brain function decline
  – Some conditions cause loss of mental faculties
    • Circulatory disorders
    • Parkinson disease

Late Adulthood Psychosocial Development

• Physical, emotional challenges
  – Terminal drop, theory, intelligence decline in later years may be caused by person’s conscious, unconscious perception of coming death, measured by IQ test change
    • Perception may cause withdrawal from world, few weeks up to five years before death
    • May be evident, mood changes, mental functioning, way body responds
    • May be linked to disease presence, cancer
    • Higher a person’s IQ in old age, the longer the person is likely live after IQ test

Late Adulthood Psychosocial Development

• Dying, death of partner, stressful event
  – Way person deals with situation based on number of factors
    • Cultural, religious views
    • Cause, timing of death
    • Length, type of relationship
    • Person’s quality of life before death
    • Support of friends, family, organizations
  – Most experience variety of emotions dealing with death, dying
  – From initial denial to final acceptance
Summary

• Newborn is a baby in the first hours of life; neonate is a baby younger than 28 days; infant is a child 28 days to 1 year of age
• Newborn normally weighs 3 to 3.5 kg (7 to 8 lbs), weight typically triples in first 9 to 12 months
  – Infant’s head accounts for about 25% of total body weight

Summary

• At birth, structures unique to fetal circulation constrict, normally close within first year of life
  – Fluid is expelled from lungs during first few breaths
  – Respiratory muscles, alveoli not fully developed
• Infants are born with protective reflexes related to breathing, eating, stress/discomfort

Summary

• At birth, anterior and posterior fontanels are open
  – Bone growth occurs at epiphysis of bones
• Some passive immunity is conferred at birth and through mother’s breast milk
• Caregiver is major factor in infant’s psychosocial development
Summary

• Temperament is person’s behavioral style, the way a person interacts with the environment
• Toddlers are 1 to 3 years of age, preschoolers are 3 to 5 years of age

Summary

• Hemoglobin level in toddlers, preschoolers approaches that of adults, brain is about 90% of adult brain weight, muscle mass and bone density increase
  – Walking occurs by age 2, fine motor skills develop
  – Control of bowel, bladder achieved
• Parenting styles can be described as authoritarian, authoritative, or permissive

Summary

• Sibling rivalry, peer relationships, divorce, exposure to aggression/violence affect child’s development
• School-age children range from 6 to 12 years of age
  – Physical growth slows, brain function and ability to learn quickly develop
  – Many children reach puberty
  – Self-esteem, moral development are critical
Summary

- Adolescents are 13 to 19 years of age
  - Growth of bone, muscle mass nearly complete
  - Reproductive maturity reached
- Early adulthood spans from 20 to 40 years of age
  - Lifelong habits, routines develop
  - Body systems at optimal performance

Summary

- Middle adulthood extends from 41 to 60 years of age
  - Physiological aspects of aging become more apparent, menopause in women occurs
- People reach late adulthood at 61 years of age
  - Body system changes vary widely from person to person, but systemic changes of aging become apparent
  - Some face financial, physical, emotional challenges

Questions?