Chapter 12

Physical Development and Health in Middle Childhood
Guideposts for Study

1. How Do School-Age Children’s Bodies and Brains Grow and Develop?
2. What Are the Nutritional and Sleep Needs of Middle Childhood?
Guideposts for Study

• 3. What Gains in Motor Skills Typically Occur At This Age, and What Kinds of Physical Play Do Boys and Girls Engage In?

• 4. What Are the Principal Health and Safety Concerns in Middle Childhood?
A Healthy Time

- *Middle childhood*, ages 7 to 11, is generally a happy, healthy time of life
Size and Shape

- The rate of growth slows during middle childhood.
- Most 7-11 year olds gain 5-7 lbs. and 2” per year.
- BMI (Body Mass Index) may be the lowest at age 6.
- African-American boys and girls tend to grow faster than European children.
- One type of growth disorder arises from the body’s failure to produce enough growth hormone.
Tall and Short Classmates

- Recall and describe the personality of a classmate in your 4<sup>th</sup>-6<sup>th</sup> grade class as being taller or more grown-up in appearance than most other children.

- Recall and describe the personality of a classmate in your 4<sup>th</sup>-6<sup>th</sup> grade class as being shorter or less mature in appearance than most of the other children.
Dental Care and Hygiene

• Tooth Development and Dental Care
  - Most adult teeth arrive in early childhood
  - Primary teeth begin to fall out at about age 6
  - A dramatic drop in untreated cavities in recent years is due to the use of adhesive sealants in children’s dental care
"The Brain"
Brain Development

• Advances include:
  - Continued myelination and neural connections
  - Growth in connections between the temporal and parietal lobes
  - Greater ability for self-control
  - Selective attention: ability to concentrate on what is important
  - Automatization: some skills become routine (e.g., reading, writing one's name)
Make it Real: Brain Development

- What aspects of brain development are involved in playing a musical instrument?
Nutrition and Sleep
Nutrition and Sleep

• Nutritional Needs
  - Schoolchildren need, on average, 2,400 calories per day
  - Varied diet including plenty of grains, fruits, vegetables, and high levels of complex carbohydrates
Nutrition and Sleep

- Nutritional Needs
  - To avoid overweight children should get only 30 percent of their total calories from fat and less than 10 percent of the total from saturated fat
  - Fruit juice and sweetened beverages should be limited to 8 to 12 ounces a day
Nutrition and Sleep

• Sleep Patterns and Problems
  - Needs decline from about 11 hours a day at age 5 to a little more than 10 hours at age 9 and about 9 hours at age 13
  - Children who have a television set in their bedroom get less sleep
Nutrition and Sleep

• Sleep Patterns and Problems
  - Children wake up twice per night
  - Girls sleep longer and more soundly than boys
  - Family stress associated with lower sleep quality
Motor Development and Physical Play
Motor Skills

- Motor skill development continues through middle childhood, due to brain maturation and experience.

- Older children have a faster reaction time than younger children.

- Rough-and-tumble play helps regulate and coordinate frontal lobes of brain.
Motor Development

- Organized Sports
  - After rough-and-tumble play, children join organized, adult-led sports
  - 38.5 percent participate in organized athletics outside school
  - 77.4 percent participate in unorganized physical activity
    - Bicycling
    - Shooting baskets
Motor Skills

• Children’s Lives Are Becoming More Sedentary
  - Children spend less time on sports and outdoor activities
  - More time spent on:
    • Schooling and homework
    • Watching television
      – 12 to 14 hours per week
    • Computer activities
Make it Real: Motor Skills

• List some **benefits** and **concerns** of **sports** for young children.

• How often did you have **physical education** in school?
Motor Skills (cont.)

• **Benefits** of sports programs include exercise, fun, teamwork, sportsmanship.

• **Concerns** include too much competition at a young age, increased stress, critical parents, risk of physical injury.

• **Time** for physical education at school has decreased significantly, as well as safe neighborhood places to play.
Motor Development and Physical Play

- Long-Term Health Benefits of Regular Physical Activity
  - Weight control
  - Lower blood pressure
  - Improved cardio respiratory functioning
  - Enhanced self-esteem and well-being
Health and Safety
Health and Safety

• Overweight and Body Image
  - Becoming a major health issue worldwide
  - Boys are more likely to be overweight than girls
  - Many girls in middle childhood are concerned with body image
    • How one believes one looks
To Barbie or not to Barbie

Please Read the article on p.339 (Box 12-1)
Health and Safety

• Overweight and Body Image
  - Causes of Overweight
    • Heredity
    • Too little exercise
    • Too much and/or wrong kinds of food
    • Excessive television viewing
Health and Safety

• Why is Childhood Overweight a Serious Concern?
  - Emotional suffering
  - Behavior problems
  - Depression and low self-esteem
  - Medical problems
    • High blood pressure
    • High cholesterol
    • High insulin levels
Health and Safety

• Overweight and Body Image
  - Prevention and treatment of overweight
    • Less time in front of television and computers
    • Changes in food labeling and advertising
    • Healthier school meals
    • Education to help children make better food choices
    • More time spent in physical education
Health and Safety

- Overweight and Body Image
  - Overweight and childhood hypertension
    - High blood pressure
    - “Evolving epidemic”
    - Weight reduction through dietary modification is the primary treatment
    - Long-term consequences of drug therapy are unknown
Childhood Obesity

- **Weight status category/Percentile range**
  (http://www.cdc.gov/nccdphp/dnpa/bmi/childrens_BMI/about_childrens_BMI.htm)
- Underweight Less than the 5th percentile
- Healthy weight 5th percentile to less than the 85th percentile
- At risk of overweight 85th to less than the 95th percentile
- Overweight Equal to or greater than the 95th percentile

- The rate of overweight and obese children is increasing.
- Overweight children are at higher risk of health problems such as Type II diabetes and asthma, sleep apnea, liver disease and orthopedic problems.
- They often suffer socially and academically as they face ridicule from peers.
Body mass index-for-age percentiles: Boys, 2 to 20 years

A 10-year-old boy with a BMI of 23 would be in the overweight category (95th percentile or greater).

A 10-year-old boy with a BMI of 21 would be in the at-risk-of-overweight category (85th to less than 95th percentile).

A 10-year-old boy with a BMI of 18 would be in the healthy weight category (5th percentile to less than 85th percentile).

A 10-year-old boy with a BMI of 13 would be in the underweight category (less than 5th percentile).
Health and Safety

• Acute Medical Conditions
  - Occasional, short-term conditions
    • Infections
    • Warts
    • Colds
    • Flu
    • Viruses
Health and Safety

- **Chronic Medical Conditions**
  - Vision and hearing problems
    - 13 percent of children are estimated to be blind or have impaired vision
  - Stuttering
    - Involuntary audible or silent repetition or prolongation of sounds or syllables
    - Persistent developmental stuttering (PDS)
Health and Safety

- **Chronic Medical Conditions**
  - **Asthma**
    - Chronic respiratory disease
      - Allergy based
      - More common in boys
      - Increasing worldwide
  - **HIV and AIDS**
    - 2.2 million children under age 15 infected
    - Early detection is important
Health and Safety

- Factors in Health and Access to Health Care
  - Social disadvantage plays an important part in children’s health
  - Families with higher socioeconomic status are more likely to have health insurance
  - Cultural and ethnic groups vary on beliefs and attitudes about healthcare
Health and Safety

• Accidental Injuries
  - Leading cause of death among school-age U.S. children
  - Protective headgear is vital
  - Trampolines are not recommended, but if one is used it must have constant supervision