The Physical Activity Guidelines for Children and Adolescents

The Role of Schools in Promoting Youth Physical Activity

Your Name
Organization or Group
Date of Presentation
Presentation Objectives

- Identify the benefits of regular physical activity among youth
- Describe the key physical activity guidelines for children and adolescents
- Describe the role of schools, in partnership with families and communities, in promoting physical activity among children and adolescents
A Day in the Life of Colin: A 7-Year-Old Child

- Walks to and from school
- Jumps rope and does gymnastics in physical education class
- Plays on the playground during recess
- Does homework
- Watches television
- Plays soccer with family
- Plays video games
What Are the Benefits of Physical Activity?

• Promotes health and fitness
• Builds healthy bones and muscles\(^1\)
• Reduces the risk of developing obesity and risk factors for diseases such as type 2 diabetes and heart disease\(^1\)
• Reduces the symptoms of anxiety and depression\(^1\)
• Can positively affect concentration, memory, and classroom behavior\(^2\)

1. HHS. Physical Activity Guidelines Advisory Committee Report; 2008
How Much Physical Activity Do Youth Need?

- Children and adolescents should do 60 minutes (1 hour) or more of physical activity daily.
  - **Aerobic Activities**: Most of the 60 or more minutes per day should be either moderate- or vigorous-intensity aerobic physical activity. Include vigorous-intensity physical activity at least 3 days per week.
  - **Muscle-strengthening Activities**: Include muscle-strengthening physical activity on at least 3 days of the week, as part of the 60 or more minutes.
  - **Bone-strengthening Activities**: Include bone-strengthening physical activity on at least 3 days of the week, as part of the 60 or more minutes.
- Activities should be age-appropriate, enjoyable, and offer variety.
What Does This Really Mean?

- At least 60 minutes every day
- Mostly aerobic activities
- Add variety and fun
What are Aerobic Activities?

- Activities that keep your body moving enough to increase your heart rate and make you breathe harder
- There are two intensities of aerobic activity:
  - Moderate-intensity
  - Vigorous-intensity
Judging the Intensity of Aerobic Activities

• **Moderate-intensity Activity**
  - Heart will beat faster than normal and breathing will be harder than normal
  - On a scale of 0 to 10, moderate-intensity activity is a 5 or 6

• **Vigorous-intensity Activity**
  - Heart will beat much faster than normal and breathing will be much harder than normal
  - On a scale of 0 to 10, a vigorous-intensity activity is 7 or 8
# Types of Moderate- and Vigorous-Intensity Aerobic Activities

<table>
<thead>
<tr>
<th>Type of Physical Activity</th>
<th>Age Group</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Children</strong></td>
<td><strong>Adolescents</strong></td>
</tr>
</tbody>
</table>
| **Moderate-intensity aerobic** | • Active recreation, such as hiking, skateboarding, rollerblading  
• Bicycle riding  
• Brisk walking | • Active recreation, such as canoeing, hiking, skateboarding, rollerblading  
• Brisk walking  
• Bicycle riding (stationary or road bike)  
• Housework and yard work, such as sweeping or pushing a lawn mower  
• Games that require catching and throwing, such as baseball and softball |
| **Vigorous-intensity aerobic** | • Active games involving running and chasing, such as tag  
• Bicycle riding  
• Jumping rope  
• Martial arts, such as karate  
• Running  
• Sports such as soccer, ice or field hockey, basketball, swimming, tennis  
• Cross-country skiing | • Active games involving running and chasing, such as flag football  
• Bicycle riding  
• Jumping rope  
• Martial arts, such as karate  
• Running  
• Sports such as soccer, ice or field hockey, basketball, swimming, tennis  
• Vigorous dancing, cross-country skiing |
What are Muscle-Strengthening Activities?

- Activities that make muscles do more work than usual activities of daily life
- Activities that can be part of unstructured play
  - Climbing trees
  - Playing tug-of-war
- Activities that can be structured
  - Push-ups, pull-ups
  - Working with resistance bands
  - Lifting weights
## Types of Muscle-Strengthening Activities

<table>
<thead>
<tr>
<th>Type of Physical Activity</th>
<th>Age Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Children</td>
</tr>
<tr>
<td>Muscle-strengthening</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Games such as tug-of-war</td>
</tr>
<tr>
<td></td>
<td>Modified push-ups (with knees on the floor)</td>
</tr>
<tr>
<td></td>
<td>Resistance exercises using body weight or resistance bands</td>
</tr>
<tr>
<td></td>
<td>Rope or tree climbing</td>
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<tr>
<td></td>
<td>Sit-ups (curl-ups or crunches)</td>
</tr>
<tr>
<td></td>
<td>Swinging on playground equipment/bars</td>
</tr>
</tbody>
</table>
What Are Bone-Strengthening Activities?

- Activities that produce a force on the bones that promotes bone growth and strength, such as jumping.
- Activities that are especially important for young people because the greatest gain in bone mass occur during the years just before and during puberty.
### Types of Bone-strengthening Activities

<table>
<thead>
<tr>
<th>Type of Physical Activity</th>
<th>Age Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Children</td>
</tr>
<tr>
<td>Bone-strengthening</td>
<td>• Games such as hopscotch</td>
</tr>
<tr>
<td></td>
<td>• Hopping, skipping, jumping</td>
</tr>
<tr>
<td></td>
<td>• Jumping rope</td>
</tr>
<tr>
<td></td>
<td>• Running</td>
</tr>
<tr>
<td></td>
<td>• Sports such as gymnastics, basketball, volleyball, tennis</td>
</tr>
</tbody>
</table>
How Are the Guidelines for Youth Different from the Guidelines for Adults?

• Take into consideration natural activity patterns of children
  ▪ All episodes of moderate- or vigorous-intensity activities count toward daily requirement
  ▪ Unstructured active play can provide all three types of physical activity

• Daily physical activity required

• Specify need for bone-strengthening activities and vigorous-intensity activities each week
Meeting the Guidelines

Getting and Staying Active
How Physically Active Are High School Students?

* Were physically active doing any kind of physical activity that increased their heart rate and made them breathe hard some of the time for a total of at least 60 minutes/day during the 7 days before the survey.

How Much Do 9- to 13- Year-Olds Participate in Physical Activity?

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Organized Activity</th>
<th>Free-Time Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black, non-Hispanic</td>
<td>24%</td>
<td>75%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>26%</td>
<td>75%</td>
</tr>
<tr>
<td>White, non-Hispanic</td>
<td>47%</td>
<td>79%</td>
</tr>
<tr>
<td>Total</td>
<td>39%</td>
<td>77%</td>
</tr>
</tbody>
</table>

Meeting the Guidelines

• Youth Who Don’t Meet the Guidelines
  ▪ Slowly increase activity in small steps
  ▪ Participate in enjoyable activities

• Youth Who Meet the Guidelines
  ▪ Continue being active on a daily basis
  ▪ Work toward becoming more active

• Youth Who Exceed the Guidelines
  ▪ Maintain activity level
  ▪ Vary the kinds of activities to reduce the risk of injury
A Day in the Life of Colin

- Walks to and from school (20 minutes)
- Jumps rope and does gymnastics in physical education class (10 minutes each).
- Plays on the playground during recess (10 minutes)
- Does homework (20 minutes)
- Watches television (30 minutes)
- Plays soccer with family (20 minutes)
- Plays video games (30 minutes)

- Total physical activity time = 60 minutes
  - Vigorous-intensity aerobic activity: jumping rope
  - Bone-strengthening activities: jumping rope, gymnastics
  - Muscle-strengthening activities: gymnastics
## Colin’s Weekly Physical Activities

<table>
<thead>
<tr>
<th>Day</th>
<th>Activity</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>Walks to and from school</td>
<td>20 minutes</td>
</tr>
<tr>
<td></td>
<td>Plays on playground</td>
<td>10 minutes</td>
</tr>
<tr>
<td></td>
<td>Jumps rope</td>
<td>10 minutes</td>
</tr>
<tr>
<td></td>
<td>Does gymnastics</td>
<td>10 minutes</td>
</tr>
<tr>
<td></td>
<td>Plays soccer with family</td>
<td>20 minutes</td>
</tr>
<tr>
<td>Tuesday</td>
<td>Walks to and from school</td>
<td>20 minutes</td>
</tr>
<tr>
<td></td>
<td>Plays on playground</td>
<td>25 minutes</td>
</tr>
<tr>
<td></td>
<td>Climbs on playground equipment</td>
<td>15 minutes</td>
</tr>
<tr>
<td>Wednesday</td>
<td>Walks to and from school</td>
<td>20 minutes</td>
</tr>
<tr>
<td></td>
<td>Plays actively with friends</td>
<td>25 minutes</td>
</tr>
<tr>
<td></td>
<td>Jumps rope</td>
<td>10 minutes</td>
</tr>
<tr>
<td></td>
<td>Runs</td>
<td>5 minutes</td>
</tr>
<tr>
<td></td>
<td>Does sit ups</td>
<td>2 minutes</td>
</tr>
<tr>
<td>Day</td>
<td>Activity</td>
<td>Duration</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Thursday</td>
<td>Plays actively with family</td>
<td>30 min</td>
</tr>
<tr>
<td></td>
<td>Plays soccer</td>
<td>30 min</td>
</tr>
<tr>
<td>Friday</td>
<td>Walks to and from school</td>
<td>20 min</td>
</tr>
<tr>
<td></td>
<td>Plays actively with friends</td>
<td>25 min</td>
</tr>
<tr>
<td></td>
<td>Bicycles</td>
<td>15 min</td>
</tr>
<tr>
<td>Saturday</td>
<td>Plays on playground</td>
<td>30 min</td>
</tr>
<tr>
<td></td>
<td>Climbs on playground equipment</td>
<td>15 min</td>
</tr>
<tr>
<td></td>
<td>Bicycles</td>
<td>15 min</td>
</tr>
<tr>
<td>Sunday</td>
<td>Plays on playground</td>
<td>10 min</td>
</tr>
<tr>
<td></td>
<td>Plays soccer</td>
<td>40 min</td>
</tr>
<tr>
<td></td>
<td>Plays tag with family</td>
<td>10 min</td>
</tr>
</tbody>
</table>
Maria: A 16-Year-Old Adolescent

- Maria participates in many types of physical activities in many places
- She plays tennis and does sit-ups and push-ups during physical education class
- She likes to play basketball at the YMCA, do yoga, and go dancing with her friends
- She likes to walk and hike with her dog
A Day in the Life of Maria

• Walks dog (10 minutes)
• Plays tennis (30 minutes)
• Does sit-ups and push-ups (5 minutes)
• Plays with children at the park while babysitting (15 minutes)

• Total physical activity time = 60 minutes
  ▪ Vigorous-intensity aerobic activity: tennis
  ▪ Bone-strengthening activity: tennis
  ▪ Muscle-strengthening activity: sit-ups and push-ups
Barriers to Meeting the Guidelines

• Personal
  ▪ Attitude
  ▪ Belief in ability to be physically active

• Social
  ▪ Influence of their peers
  ▪ Parental support

• Environmental
  ▪ Safe locations to be active
  ▪ Access to equipment
  ▪ Financial costs of physical activities
  ▪ Time
YOUTH PHYSICAL ACTIVITY

Institutions

Postsecondary Institutions

Health Care Providers

Schools

Religious Organizations

Media

Government Agencies

Employers

Family

Community agencies that serve youth
Youth Physical Activity

The Role of Schools
Why is Physical Activity Important For Schools?

• Associated with lower levels of stress and anxiety¹
• Can positively affect concentration, memory, and classroom behavior among adolescents²
• Can improve standardized test scores³

Physical Education and Academic Achievement

- **Nationally representative sample:** 5,316 students starting kindergarten in 1998–1999, followed through 5\textsuperscript{th} grade

- **Physical education (PE) measure:**
  Low (0–35 mins/week), Medium (36–69), High (70–300)

- **Academic achievement measure:**
  Mathematics and reading tests designed by experts

- **Results:** A small but significant benefit on both math and reading tests were observed for girls in the high PE category compared with those in the low PE category; findings not seen in boys

Comprehensive School-Based Physical Activity Program

Components include:
- Quality physical education
- Daily recess period
- Activity breaks throughout the day
- Intramural sports
- Interscholastic sports
- Walk- and bike-to-school programs
- Staff wellness and involvement
- Family and community participation

Physical Activity vs. Physical Education

- Physical activity = behavior
- Physical education = curricular area that teaches about physical activity
  - Provides students with the skills needed to participate in a lifetime of physical activity

What is Quality Physical Education?

- **Opportunity to learn**
  - Adequate time, equipment, and facilities
  - Highly qualified, certified, or licensed teachers

- **Meaningful content**
  - Written standards-based curriculum
  - Sequential, developmentally appropriate learning activities for grades K–12

- **Appropriate instruction**
  - Full inclusion of all students
  - Well-designed lessons that facilitate learning
  - Sufficient practice opportunities for class activities
  - Student assessment
Other Characteristics of Quality Physical Education Programs

- Enjoyable experience for all students
- Meet the needs and interests of all students
- Keep students active for most of class time
  - More than 50% of class time spent in moderate- to vigorous-intensity activity

**Policy Recommendation:** Schools should require daily PE for students in kindergarten through grade 12¹

- Elementary school = 150 minutes per week
- Secondary school = 225 minutes per week

Recess

- Opportunity to participate in free-time physical activity and practice skills learned in physical education classes
- Enhances cooperation and negotiation skills
- Improves attentiveness, concentration, and time-on-task in the classroom

Policy Recommendation: Schools should provide at least 20 minutes of recess per day, in addition to physical education classes

1. National Association for Sport and Physical Education. Recess in Elementary Schools; 2006.
Physical Activity Breaks

- Independent of physical education and recess
- Can enhance positive classroom behavior of students
- Incorporates activity in the classroom as part of planned lessons

**Physical Activity Break Ideas:** Ask students to identify and act out action words from a story through physical activity or take a walk outside as part of a science class
Intramural Sports

- Can be offered before, during, and after school
- Provide students with a choice in activities
- Offer every student an equal opportunity to participate regardless of ability level
- Incorporate lifetime physical activities such as walking, running, hiking, swimming, tennis, dancing, and bicycling
Interscholastic Sports

• Help establish cooperative and competitive skills¹
• Help students learn sport-specific and performance-based skills
• May be related to higher levels of overall physical activity²
• Associated with improved mental health and reduction in some risky health behaviors³–⁴

Benefits of Active Commuting to School

- Increases physical activity levels\textsuperscript{1–3}
- Reduces the number of cars and decreases traffic near schools
- Promotes partnerships among students, parents and community organizations and members

Prevalence of Active Commuting to or from School

Walk and Bicycle to School Programs

Activity Recommendation:
Schools should participate in *International Walk to School Week* and support ongoing walk and bike to school programs

- Resources:
  - Safe Routes to Schools
  - Walking School Bus
  - KidsWalk Guide
Working Together: Joint Use Agreements

- Share resources: athletic fields, playgrounds and fitness facilities with other community members and organizations.
- Open school facilities to provide physical activity programs to students, families, school staff, and community members.
- Seek funding from local businesses, community groups and health organizations for physical activity programs and events.
Working Together: Community Involvement In School-Based Physical Activity

• Support school-based physical activity
  ▪ Join the school health advisory council
  ▪ Donate equipment, money or encourage staff to volunteer time
  ▪ Support Safe Routes to School programs
  ▪ Offer after-school physical activity programs
Media

Religious Organizations

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Community agencies that serve youth

Employers

YOUTH PHYSICAL ACTIVITY
Thank you!
Questions?

Be Active and Play, 60 minutes, every day!

Information in this presentation is provided by
U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
National Center for Chronic Disease Prevention and Health Promotion
Division of Adolescent and School Health
www.cdc.gov/HealthyYouth