





### **FACTS**

### **Learning For Life**

### Physical Education in Schools

#### **OVERVIEW**

Obesity is a major heath risk factor linked to increased cardiovascular disease (CVD), certain types of cancer, type 2 diabetes, and early death. But obesity is not just about overeating. Researchers suggest that the childhood obesity epidemic is also the result of a decline in regular physical activity. Too many young people have fallen into a sedentary lifestyle of long hours spent in front of the television and computer and playing video games. To make matters worse, many schools are cutting back on traditional physical education programs because of budgetary concerns and competing academic demands, such as federally mandated standardized tests under the No Child Left Behind Act. 2

Regular physical activity is associated with a healthier, longer life and a lower risk of CVD, high blood pressure, diabetes, obesity, and some cancers.<sup>1</sup>

## A GROWING SEDENTARY LIFESTYLE: SERIOUS HEALTH CONSEQUENCES

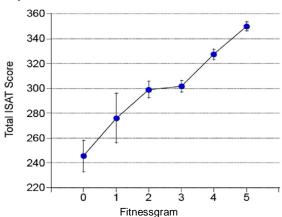
- The number of overweight pre-schoolers has jumped by 36% since 1999-2000. In 2005, nearly 10 million children and adolescents ages 6-19 were considered obese.<sup>3</sup>
- The Department of Health & Human Services estimates that by 2010, 20% of children and youth in the U.S. will be obese.<sup>4</sup> Obese adolescents have a significantly greater risk of developing and dying from chronic diseases in adulthood.<sup>5</sup>
- Of all U.S. deaths from major chronic diseases, 23% are linked to sedentary lifestyles.<sup>6</sup>

# ACTIVE CHILDREN THRIVE ACADEMICALLY AND SOCIALLY

Physically active and educated children are more likely to thrive academically and socially. Through effective physical education, children learn how to incorporate safe and healthy activities into their lives. Physical education is an integral part of developing the "whole" child in social settings and the learning environment.

- Evidence suggests that physical activity has a positive impact on cognitive ability, tobacco use, insomnia, depression, and anxiety.<sup>7</sup> Normalweight children also have lower rates of school absenteeism than obese children.<sup>8</sup>
- Recent studies have found a strong correlation between aerobic fitness and academic performance as measured by grades in core subjects and standardized test scores.
- Several large-scale studies found improvements in students' academic performance with increased time spent in physical education. Children who spent time in physical education in place of a classroom activity performed no worse academically than students not enrolled in physical education.

#### Physical Fitness & Achievement Test Performance\*



Source: Hillman CH, Erickson K I, Kramer A F Be smart, exercise your heart: Exercise effects on brain and cognition. *Nat Rev Neurosci*, 2008:9,58-65.

- Only 3.8% of elementary schools, 7.9% of middle schools and 2.1% of high schools provide daily physical education or its equivalent for the entire school year. Twenty-two percent of schools do not require students to take any physical education at all <sup>13</sup>
- Yet, 95% of parents believe physical education should be part of a school curriculum for all students in grades K-12.
- Evidence from the Early Childhood Longitudinal Study showed that physical education programs

improved body mass index (BMI) in young adolescent overweight girls. Just an extra hour of exercise each week lessened BMI.<sup>15</sup>

### **QUANTITY AND QUALITY**

- It is recommended that children engage in at least 60 minutes of physical activity each day. It is reasonable for them to get at least 30 minutes of that time in school.<sup>16</sup>
- The national recommendation for physical education is 150 minutes per week in elementary and 225 minutes per week in middle and high schools. The ACS, ADA, and AHA will continue to support these recommendations as they are revised and updated with the evolving science.
- The <u>quality</u> of the physical education program is also critical. A high-quality physical education program enhances the physical, mental, and social/emotional development of every child and helps them understand, improve, and maintain physical well-being.

## ACTION PLAN FOR PHYSICAL EDUCATION

Strategies to improve quality physical education in our nation's schools include:

- Require all school districts to develop and implement a planned K-12 physical education curriculum that adheres to national and state standards for health and physical education.
- Hire a physical education coordinator at the state level to provide resources and offer support to school districts across the state.
- Offer regular professional development opportunities to physical education teachers that are specific to their field.
- Require physical education teachers to be highlyqualified and certified.
- Add valid fitness, cognitive, and affective assessments in physical education that are based on student improvement and knowledge gain.
- Require that students be active in moderatevigorous physical activity for at least 50% of physical education class time.
- Assure that physical education programs have appropriate equipment and adequate facilities.
- Not allow students to opt out of physical education to prepare for other classes or standardized tests.

- Not allow waivers or substitutions for physical education. Students should not be permitted to substitute activities such as sports, ROTC, or marching band for physical education.
- Require physical education for graduation and count the physical education grade as part of a student's overall GPA.

#### References

- 1. Eyre H, Kahn R, Robertson RM, Clark NG, Doyle C, Hong Y, Gansler T, Glynn T, Smith RA, Taubert K, Thun MJ. Preventing cancer, cardiovascular disease, and diabetes: a common agenda for the American Cancer Society, the American Diabetes Association, and the American Heart Association. *Circulation* 2004 Jun 29;109(25):3244-55.
- 2. McMurrer J. Instructional Time in Elementary Schools: A Closer Look at Changes for Specific Subjects. Washington, DC: Center on Education Policy, 2008.
- 3. American Heart Association. Heart Disease and Stroke Statistics 2008 Update. Dallas, TX: AHA, 2008.
- 4. Kaplan JP, Liverman CT, Kraak VI, Wisham SL. *Progress in Preventing Childhood Obesity: How Do We Measure Up?* Institute of Medicine. Washington, DC, National Academies Press, 2007. pp. 27-35.
- 5. Baker JL, Olsen LW, Sorensen T, Childhood body mass index and the risk of coronary heart disease in adulthood. *New Engl J Med*; 2007. 357(23):2329-2337.
- 6.Bulwer B. Sedentary lifestyles, physical activity & cardiovascular disease: from research to practice. *Crit Pathways in Cardiol.* 2004;3(4):184.
- 7. Suitor CW, Kraak VI. Adequacy of Evidence for Physical Activity Guidelines Development: Workshop Summary. Institute of Medicine. Washington, DC: National Academies Press, 2007.
- 8. Geier AB, et. al. The Relationship Between Relative Weight and School Attendance. *Obesity* 2007. 15:2157-2161.
- 9 Coe DP, et. al. Effect of physical education and activity levels on academic achievement in children. *Medicine & Science in Sports & Exercise* 2006;38:1515-1519.
- Castelli DM, et. al. Physical fitness and academic achievement in thirdand fifth-grade students. Journ Sport & Exer Physiol 2007; 29:239-252.
  Carlson SA, et. al. Physical education and academic achievement in
- 11. Carlson SA, et. al. Physical education and academic achievement in elementary school: data from the early childhood longitudinal study. *Am J Public Health* 2008; 98:721-727.
- 12. Active Living Research, A National Program of the Robert Wood Johnson Foundation. Active Education: Physical Education, Physical Activity and Academic Performance. Research Brief. Fall 2007. Available online at <a href="http://www.activelivingresearch.org/resourcesearch/summaries">http://www.activelivingresearch.org/resourcesearch/summaries</a>.
- 13. CDC. School Health Policies and Programs Study (SHPPS) 2006. Journal of School Health. 2007; 27(8).
- 14. Parents' Views of Children's Health and Fitness: A Summary of Results: A Survey Conducted by Opinion Research Corporation International of Princeton, NJ for the National Association for Sport and Physical Education. 2003. available at <a href="http://www.aahperd.org/naspe/pdf\_files/survey\_parents.pdf">http://www.aahperd.org/naspe/pdf\_files/survey\_parents.pdf</a>.
- 15. Datar A. Strum R. Physical education in elementary school and body mass index: evidence from the early longitudinal study. *American Journal of Public Health*. September 2004; 94-9.
- 16. Pate RR, Davis MG, Robinson TN, Stone EJ, McKenzie TL, Young JC. Physical activity promotion in children and youth. *Circulation* 2006; 114:1214-1224.