



SCHOOLS AND PHYSICAL ACTIVITY

FACTS

- Physical activity reduces the risk of heart disease and stroke. Physical activity also helps to prevent and control modifiable risk factors for heart disease and stroke including diabetes, obesity, high blood pressure, and high blood cholesterol.¹
- Substantial evidence suggests that physical activity can positively influence cognitive skills, attitudes and academic behavior.^{2,3}
- Research demonstrates the existence of a relationship between increased sedentary time and decreased fitness, increased obesity, weak academic performance, and increased aggression.⁴
- The most recent Canadian Health Measures Survey found that roughly 95% of Canadian children and youth do not get the recommended amount of physical activity (a minimum of 60 minutes per day of moderate-to-vigorous physical activity for ages 5-17⁵).⁶
- Older age groups of children and youth tend to get less physical activity than younger age groups.⁷
- 31.5% of Canadian children and youth aged 5 to 17 years are overweight or obese, with 19.8% being overweight and 11.7% being obese.⁸ Childhood obesity frequently persists into adulthood, leading to increased morbidity and mortality, including cardiovascular disease.⁹
- It is estimated that only 22% of Canadian children receive physical education at school every day.¹⁰
- The percentage of schools in Canada that report providing the recommended level of 150 minutes of physical education per week varies between 8% and 65%, depending on grade level.¹¹
- School environments that support and encourage physical activity have been shown to be effective in increasing student activity levels.¹²
- Physical education classes averaging 18 or more minutes a day can more than double the odds that an overweight or obese child becomes and remains physically active.¹³
- Implementing school based physical education has been shown to improve academic performance.¹⁴
- A recent survey indicates that roughly two thirds of Canadians believe that more time devoted to physical education would lead to improvements in math/science and reading/writing and that students should receive at least 30 minutes of physical education per day.¹⁵
- The proportion of Canadian children who regularly either walk, bike, or wheel to school is roughly 1 in 3.¹⁶⁻¹⁹
- Between 2000 and 2010, the percentage of 5 to 17 year olds whose normal commute involves exclusively inactive modes of transportation (i.e., not in combination with walking or biking) increased from 51% to 62%.²⁰
- The risk of obesity has been shown to decline by 4.8% for each additional kilometre walked per day and can increase by 6% for each hour spent in a car per day.²¹
- A Canada-wide study of school neighbourhoods indicated that many were not conducive to safe walking, with 42% of schools located on high-volume, high-speed roads and 14% having no sidewalks in the immediate vicinity.²²
- Evidence suggests that after school programs can also improve physical activity levels and other health-related measures.²³





RECOMMENDATIONS

The Heart and Stroke Foundation recommends that:

CANADIAN PARENTS, GUARDIANS AND TEACHERS

1. Help children to develop a genuine sense of enjoyment and long term appreciation for physical activity.
2. Act as role models for children and youth by participating in fun physical activities with them.
3. Help children and youth to meet the targets outlined in the Canadian Physical Activity Guidelines.⁵
4. Encourage schools to assist students in completing 60 minutes of physical activity per day through a variety of programs and activities (both structured and unstructured), including *Quality Daily Physical Education*²⁴ programs.
5. Support and promote the development of active and safe routes to school.²⁵
6. Encourage schools and communities to work together to provide physical activity opportunities beyond school hours.

PROVINCIAL/TERRITORIAL GOVERNMENTS AND SCHOOL BOARDS

1. Ensure adequate financial support for schools to help implement a strong health and physical education curriculum that emphasizes lifelong physical activity enjoyment and skills.
2. Ensure *Quality Daily Physical Education*²⁴ programs are in place for all students from kindergarten to grade 12.
3. Assist all students from kindergarten to grade 12 in accumulating 60 minutes of daily physical activity through a variety of activities and programs. For example:
 - Integrate physical activity into lesson plans for subjects other than physical education (e.g., math, science, languages etc.)
 - Encourage unstructured physical activity and active play during lunch hours and recess.
 - Provide intramural opportunities for physical activity at lunch hour and before or after school.

4. Include accountability measures within provincial/territorial policies governing school physical activity and physical education in order to ensure that implementation occurs.
5. Where possible, increase the availability of physical education specialists in elementary schools.
6. Emphasize the importance of physical activity for all and take into account the requirements of different age/sex groups, ethnic backgrounds, and previous experience with physical activity.
7. Establish school siting guidelines that place schools in locations that make it easier for children to walk and bike to school. A travelling distance of 1km or less has been shown to be exceptionally favourable to active transportation.²⁶⁻²⁸ Where this is not possible (e.g., rural areas), implement creative solutions that help children to walk or bike at least some portion of their commute. For example, arrange for buses to drop students off at locations from which they can safely walk or bike the rest of the way.
8. Promote the development of active and safe routes to school.²⁵ Conduct accompanying promotional and educational activities that address safety and the benefits of active transportation.
9. Establish healthy school environments including the provision of bike racks and crossing guards, as well as safe and appealing playgrounds designed to promote physical activity. Where possible, train playground supervisors to facilitate a wide variety of games that emphasize physical activity.
10. Through the establishment of cooperative agreements between schools and communities, arrange for schools to be open before and after school for physical activity and other programs for children and their families.

RESEARCHERS

1. Conduct research aimed at determining the most effective school-related physical activity programs and initiatives.
2. Conduct research to understand and address the barriers to children and youth engaging in physical activity at school.
3. Study the relationship between physical activity opportunities at school and overall physical activity levels of children and youth.



4. Investigate the effectiveness of interventions designed to increase rates of active transportation to and from school among children and youth.

BACKGROUND INFORMATION

Very large numbers of Canadian children and youth do not get enough physical activity.²⁹ This puts them at increased risk for conditions such as cardiovascular disease, obesity, and diabetes, and compromises their quality of life.³ In addition, children who do not get enough physical activity are more likely to struggle with cognitive and academic challenges.^{30, 3}

The Canadian Physical Activity Guidelines specify that all children between the ages of five and seventeen should get at least 60 minutes of moderate-to-vigorous physical activity every day.⁵ Vigorous activities should take place at least three times per week, and activities that strengthen muscle and bone should also take place at least three times per week.

Given that children and youth spend a significant part of their day at school, there are many opportunities for schools to improve both health and academic outcomes simultaneously. Schools can promote physical activity (and other healthy behaviours such as healthy eating) as part of a *Comprehensive School Health* (CSH) approach.³¹ Briefly, CSH is an internationally recognized framework for supporting improvements in students' educational outcomes while addressing school health in a planned, integrated and holistic way. *Comprehensive School Health* considers health promotion at school as taking place within all of the 4 following categories: 1) teaching and learning; 2) social and physical environments; 3) healthy school policy; and 4) partnerships and services.³² Within these categories, schools can implement a variety of specific measures to help children improve their levels of physical activity. Recognizing that the needs of children and youth can vary based on a number of factors including geography and socio-economic status, these measures can be tailored to the needs of individual school communities.

The Heart and Stroke Foundation (HSF) recommends that it be a priority at the school level for children and youth to accumulate at least 60 minutes of daily physical activity through a variety of activities and programs (both structured and unstructured). Providing *Quality Daily Physical Education*

(QDPE)³³ is also highly recommended by a number of health organizations including the HSF.^{34, 35} QDPE is a well-planned and varied physical education program. It is provided on a daily basis for a minimum of 30 minutes by qualified teachers and emphasizes the development of knowledge and skills that can translate to positive attitudes towards physical activity. While QDPE programs include significant amounts of structured physical activity, additional physical activity throughout the school day (both structured and unstructured) will normally be required for students to reach daily physical activity targets. Additional examples of effective physical activity-related initiatives include incorporating physical activity into lesson plans for subjects other than physical education (e.g., math, science, languages etc.), and encouraging physical activity and active play during recess and lunch breaks.

Promoting active transportation (e.g. walking and cycling) is another important way that schools can increase children's levels of physical activity. The establishment of school siting guidelines that place schools in locations that are accessible to large numbers of students is a critical measure. Also, schools can help students to use active transportation by assisting with the development of active and safe routes to school²⁵ and by providing amenities like bike racks and crossing guards. Promotion and education concerning safety and the benefits of active transportation should also help to improve levels of active transportation. It is noteworthy that the benefits of many of these measures extend beyond children and youth to families and the community as a whole.

Finally, making school facilities available during non-school hours is a resourceful way of creating additional opportunities for not only physical activity, but also for other important programs (e.g. child care, cooking classes etc.) for the whole community. Some of these programs make it possible to engage parents in supporting the healthy development of children.

Based on the understanding that health, well-being and learning are intimately connected, schools have the potential to make a dramatic difference in the lives of Canadian children and youth. In order to accomplish this, schools require dedicated funding and effective policies for the delivery of programs that promote physical activity.



REFERENCES

1. Mackay J and Mensah G. World Health Organization. The Atlas of Heart Disease and Stroke. 18 June 2013 < www.who.int/cardiovascular_diseases/en/cvd_atlas_08_physical_inactivity.pdf>
2. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. The Association Between School-Based Physical Activity, Including Physical Education, and Academic Performance. 10 April 2012 <http://www.cdc.gov/HealthyYouth/health_and_academics/pdf/pa-pe_paper.pdf>.
3. Wang K and Veugelers PJ. Self-esteem and cognitive development in the era of the childhood obesity epidemic. *Obesity Reviews* 2008; 9 (6): 615. 28 May 2012 < <http://onlinelibrary.wiley.com/doi/10.1111/j.1467-789X.2008.00507.x/pdf>>
4. Canadian Society for Exercise Physiology (2011). Canadian Sedentary Behaviour Guidelines For Children (aged 5-11 years) and Youth (aged 12-17 years). Clinical Practice Guideline Report. 28 May, 2012 <www.csep.ca/CMFiles/Guidelines/Canadian%20Sedentary%20Behaviour%20Guideline_Report_final.pdf>
5. Canadian Society for Exercise Physiology. Canadian Physical Activity Guidelines and Canadian Sedentary Behaviour Guidelines. 30 April 2013 <www.csep.ca/english/view.asp?x=804>
6. Statistics Canada. The Daily. Canadian Health Measures Survey: Directly measured physical activity of Canadians, 2007-2011. 18 June 2013 <www.statcan.gc.ca/daily-quotidien/130530/dq130530d-eng.pdf>.
7. Colley RC, Garriguet D, Janssen I, Craig CL, Clarke J, and Tremblay MS, *Physical activity of Canadian Children and Youth: Accelerometer results from 2007 to 2009 Canadian Health Measures Survey*. Component of Statistics Canada Catalogue no. 82-003-X Health Reports. 24 May 2012 <www.statcan.gc.ca/pub/82-003-x/2011001/article/11397-eng.htm>
8. Roberts KC, Shields M, de Groh M, Aziz A, and Gilbert J. Overweight and obesity in children and adolescents: Results from the 2009 to 2011 Canadian Health Measures Survey. *Health Reports* 2012;23(3):3-7.
9. Must JA, Sprecher DL, Jacques PF, Dallal GE, Bajema, CJ and Dietz MD. (1992). Long-term morbidity and mortality of overweight adolescents: A follow-up of the Harvard Growth Study of 1922 to 1935. *New England Journal of Medicine* 1992; 327: 1350-1355.
10. Canadian Fitness and Lifestyle Research Institute. 2005 Physical Activity Monitor. 10 April 2012 <http://72.10.49.94/pub_page/106>
11. Canadian Fitness and Lifestyle Research Institute. 2011 Opportunities for Physical Activity at School Survey Cited by Active Healthy Kids Canada: Active Healthy Kids Canada Report Card on Physical Activity for Children and Youth.
12. Heart and Stroke Foundation of Canada Obesity Policy Statement. June 2005.
13. Sallis J, and McKenzie T., 1991. In McKenzie, Feldman, Woods, Romero, Dahstrom, Stone et al. Children's activity levels and lesson context during third-grade physical education. *Research Quarterly for Exercise and Sport* 1995; 566: 184-193.
14. Trudeau F and Shephard RJ. Physical education, school physical activity, school sports and academic performance. *International Journal of Behavioral Nutrition and Physical Activity* 2008; 5:10 (28 February 2008).
15. Physical and Health Education Canada. Get Active: Perspectives of Canadians on the Importance of Physical Education, Health Education, and Physical Activity. Survey conducted by Ipsos Reid. March 2013. 29 April 2013. < http://www.phecanada.ca/sites/default/files/news/03-01-13/get_active_2013.pdf>.
16. Stone MR, Mammen G, Faulkner G. Canadian School Travel Planning Intervention Results (National Report). (2010-12). Submitted to the Canadian Partnership Against Cancer, under the Coalitions Linking Action and Science for Prevention (CLASP) initiative, and Green Communities Canada. April 1, 2012.
17. Canadian Fitness and Lifestyle Research Institute. 2010 Physical Activity Monitor. Bulletin 12: Transportation among children and youth. Ottawa: Canadian Fitness and Lifestyle Research Institute; 2012. 18 June 2013 <www.cflri.ca/node/961>.
18. Statistics Canada. General Social Survey –Custom Tabulation for Active Healthy Kids Canada. 2012. Ottawa: Statistics Canada.
19. Pabayo R, Gauvin L, Barnett TA. Longitudinal changes in active transportation to school in Canadian youth aged 6 through 16 years. *Pediatrics* 2011; 128 (2): e404-413.
20. Canadian Fitness and Lifestyle Research Institute. 2010 Physical Activity Monitor. Bulletin 12: Transportation among children and youth. Ottawa: Canadian Fitness and Lifestyle Research.
21. Institute; 2012. 18 June 2013 <www.cflri.ca/node/961>.
22. Frank, L et al. Obesity Relationships with Community Design, Physical Activity, and Time Spent in Cars. *American Journal of Preventative Medicine* 2004; 27:87-95.
23. Beets MW, Beighle A, Erwin HE, and Huberty JL. After-school program impact on physical activity and fitness: A meta-analysis. *American Journal of Preventive Medicine* 2009; 36(6), 527-537.
24. For more information about QDPE see: <http://www.phecanada.ca/programs/quality-daily-physical-education>



25. See <www.saferoutestestoschool.ca> for more information and resources
26. Mitra R, Buliung R. Built environment correlates of active school transportation: neighborhood and the modifiable areal unit problem. *Journal of Transport Geography* 2012;20(1):57-8.
27. Wong B, Faulkner G, Buliung RN, Irving H. Mode shifting in school travel mode: examining the prevalence and correlates of active school transport in Ontario, Canada. *BMC Public Health* 2011;11(618):1-12.
28. Larsen K, Gilliland J, Hess P, Tucker P, Irwin J, He MT. The influence of the physical environment and socio-demographic characteristics on children's mode of travel to and from school. *American Journal of Public Health* 2009;99(3):520-526.
29. Statistics Canada. The Daily. Canadian Health Measures Survey: Directly measured physical activity of Canadians, 2007-2011. 18 June 2013 <www.statcan.gc.ca/daily-quotidien/130530/dq130530d-eng.pdf>.
30. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. The Association Between School-Based Physical Activity, Including Physical Education, and Academic Performance. 10 April 2012 <www.cdc.gov/HealthyYouth/health_and_academics/pdf/pa-pe_paper.pdf>.
31. Veugeliers PJ and Schwartz ME. Comprehensive School Health in Canada. *Canadian Journal of Public Health*. Vol. 101, Supplement 2 (2010). 16 April 2012 <<http://journal.cpha.ca/index.php/cjph/article/view/1907/2208>>
32. Joint Consortium for School Health. *What is Comprehensive School Health?* 16 April 2012 <www.jcsh-cces.ca/upload/JCSH%20CSH%20Framework%20FINAL%20Nov%2008.pdf>.
33. For more information about QDPE see:< www.phecanada.ca/programs/quality-daily-physical-education>.
34. Physical and Health Education Canada. Physical and Health Education Canada's Position Statement on Quality Daily Physical Education. 6 June 2012 <<http://www.phecanada.ca/programs/quality-daily-physical-education>>.
35. Public Health Agency of Canada. Canadian Best Practices Portal. 6 June 2012 <<http://cbpp-pcpe.phac-aspc.gc.ca/intervention/392/view-eng.html>>.

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