EARLY YEARS GUIDELINES DEVELOPMENT

Canadian Physical Activity Guidelines for the Early Years (aged 0-4 years)
Canadian Sedentary Behaviour Guidelines for the Early Years (aged 0-4 years)
Presentation Overview

- Introduction, background and process

Physical Activity
- Process
  - Systematic review
  - Consensus meeting
  - Stakeholder consultation
  - Final Guidelines

Sedentary Behaviour
- Process
  - Systematic review
  - Consensus meeting
  - Stakeholder consultation
  - Final Guidelines

- Stakeholder Consultations

- Communications and Launch Plans
INTRODUCTION, BACKGROUND AND PROCESS
Peer reviewed publications

Evidence Informing Updates to Canada’s Physical Activity Guidelines

Supporting research paper published in APNM:

- Canadian Sedentary Behaviour Guidelines for Children and Youth
- Directives canadiennes en matière de comportement sédentaire à l'intention des enfants et des jeunes
- Physiological and health implications of a sedentary lifestyle
Canadian Guidelines
Age groups

- Infants: 0 - 1.0 years
- Toddlers: 1.1 - 3.0 years
- Preschoolers: 3.1 - 4.99 years

- Defined collectively as “the early years”
Knowledge Translation: Tools and Resources published online: csep.ca/guidelines

<table>
<thead>
<tr>
<th>Links</th>
<th>Images</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Practice Guideline Development Report (AGREE Report)*</td>
<td><img src="https://example.com/page1.png" alt="Page 1 of 1" /></td>
</tr>
<tr>
<td>Scientific Statements for professionals</td>
<td><img src="https://example.com/page2.png" alt="Page 2 of 1" /></td>
</tr>
<tr>
<td>Information Sheets for professionals and the public</td>
<td><img src="https://example.com/page3.png" alt="Page 3 of 1" /></td>
</tr>
<tr>
<td>Backgrounder</td>
<td><img src="https://example.com/page4.png" alt="Page 4 of 1" /></td>
</tr>
<tr>
<td>Q &amp; A</td>
<td><img src="https://example.com/page5.png" alt="Page 5 of 1" /></td>
</tr>
<tr>
<td>Glossary of Terms</td>
<td><img src="https://example.com/page6.png" alt="Page 6 of 1" /></td>
</tr>
<tr>
<td>Media Release</td>
<td><img src="https://example.com/page7.png" alt="Page 7 of 1" /></td>
</tr>
</tbody>
</table>

*available in English only
**Process Overview**

**Timeframe**

**December 2006**: CSEP think tank, Halifax, Nova Scotia

**December 2006**: CSEP Physical Activity guidelines steering committee established

**March 2007**: Working research retreat, Kananaskis, Alberta
Twelve reviews (including one focused on early years), introduction and conclusion papers discussed

**November 2007**: Launch of foundation papers in Applied Physiology, Nutrition and Metabolism (APNM) (32: S2), CSEP Annual General Meeting 2007. Including review on early years activity levels (Timmons et al. Physical activity for preschool children – how much and how?)

**January 2009**: International consensus meeting, Kananaskis, Alberta
Early Years age group (i.e. 0-4 years) identified as gap area

**September 2010**: Early Years age group identified as gap area by the Public Health Agency of Canada and CSEP online and in-person stakeholder consultation

**October 2010**: Early Years guideline working group established

**February 2011**: Healthy Active Living and Obesity Research Group (HALO) awarded Canadian Institutes of Health Research knowledge synthesis grant to complete a systematic review on physical activity and health indicators in the early years

**March 2011**: Systematic review questions established, Toronto, Ontario
Concurrently, HALO/CSEP begin work to inform Physical Activity Guidelines for the Early Years

**December 2011**: International consensus meeting, Toronto, Ontario
Results of systematic review discussed, early years physical activity guidelines drafted; on-line stakeholder consultation on wording of draft guidelines

**January 2012**: Post-stakeholder consultation and messaging meeting, Ottawa, Ontario
Wording of physical activity guidelines finalized, information sheets and messaging material drafted

**February 2012**: Guidelines, information sheets and process paper translated to French

**March 2012**: Guidelines launched to Canadians
Process paper published in APNM in both English and French; systematic review submitted for publication; AGREE II report published by CSEP
Introduction and Background

• WHO has estimates >42 million children under the age of 5 years are overweight worldwide

• A systematic review of physical activity compliance concluded only 54% of studies reporting on children aged 2 to 6 years reported children were meeting the NASPE physical activity recommendation of at least 60 min of structured and 60 min of unstructured physical activity every day

• During PA guidelines’ development 2006-2010, additional gap areas were identified, including the need for guidelines for the early years.

• Paper by Timmons et al. in the 2007 APNM/CJPH supplement – has been downloaded 2-5 times more than any other (~6,000 downloads).

• Strong demand for early years guidelines observed during the 2010 guidelines’ consultations by CSEP and PHAC.

• Release of PA guidelines for the early years by Australia in 2010 and the UK in 2011.
Physical activity: *systematic review*

- **Research Question:**
  - What is the frequency, intensity, time and type of physical activity, as measured by direct and indirect methods, associated with improved health indicators in the early years?

- **Health indicators**
  - Adiposity
  - Bone and skeletal health
  - Motor skill development
  - Psychosocial Health
  - Cognitive Development
  - Cardio-metabolic health indicators
  - Risks or harms (musculoskeletal injury).

- Search identified 11,222 papers (7,872 after de-duplication); 18 unique studies included in the review (representing 12,742 participants); some covering more than one health indicator.)
Scientific evidence

- Increased or higher physical activity is positively associated with improved health indicators but we could not determine the specific amount, intensity, frequency, or type of physical activity needed to promote healthy growth and development.

- **Infants:**
  - adiposity
  - motor skill development
  - cognitive development

- **Toddlers:**
  - Bone and skeletal health

- **Preschoolers:**
  - Adiposity
  - Motor skill development
  - Psychosocial health
  - Cardio-metabolic health indicators
Physical Activity Guideline - *preamble*

These guidelines are relevant to all apparently healthy infants (aged <1 year), toddlers (aged 1–2 years), and preschoolers (aged 3–4 years), irrespective of gender, race, ethnicity, or socio-economic status of the family. Parents and caregivers should encourage infants, toddlers, and preschoolers to participate in a variety of physical activities that support their healthy growth and development, are age-appropriate, enjoyable and safe, and occur in the context of family, child care, school, and community.

Infants should be physically active daily as a part of supervised indoor and outdoor experiences. Activities could include tummy time, reaching and grasping, pushing and pulling, and crawling. Children in the early years should be physically active daily as part of play, games, sports, transportation, recreation, and physical education. For those who are physically inactive, increasing daily activity towards the recommended levels can provide some health benefits.

Following these physical activity guidelines may improve motor skills, body composition, and aspects of metabolic health and social development. These potential benefits far exceed the potential risks associated with physical activity. These guidelines may be appropriate for infants, toddlers, and preschoolers with a disability or medical condition; however, their parents or caregiver should consult a health professional to understand the types and amounts of physical activity appropriate for them.

This recommendation places a high value on the advantages and benefits of physical activity that accrue throughout life. It also takes into consideration the preferences of practitioners to have guidance in this area for young children and the importance of setting targets for surveillance. Expert opinion and other international guidelines were used to complement the evidence upon which these guidelines were developed.

For guidance on decreasing sedentary behaviour, please refer to the Canadian Sedentary Behaviour Guidelines (www.csep.ca/guidelines).
Information sheets
- Available in English and in French
- Online (in PDF format)
- Hard copies available to order (same process as for other guidelines)
Messaging

Being active as an infant means:

- Tummy time
- Reaching for or grasping balls or other toys
- Playing or rolling on the floor
- Crawling around the home

Being active as a toddler or preschooler means:

- Any activity that gets kids moving
- Climbing stairs and moving around the home
- Playing outside and exploring their environment
- Crawling, brisk walking, running or dancing

The older children get, the more energetic play they need, such as hopping, jumping, skipping and bike riding.
Messaging

Being active can help young kids:

- Maintain a healthy body weight
- Improve movement skills
- Increase fitness
- Build healthy hearts
- Have fun and feel happy
- Develop self-confidence
- Improve learning and attention

All activity counts. Try these tips to get young kids moving:

- Create safe spaces for play.
- Make time for play with other kids.
- Play music and learn action songs together.
- Get where you’re going by walking or biking.
- Dress for the weather and explore the outdoors.
Physical Activity: *Preamble*

**Preamble: Clarity**
536 responses – 92% agree

**Preamble: Agreement**
536 responses – 95% agree
Guidelines: Clarity
524 responses – 92% agree

Guidelines: Agreement
527 responses – 94% agree
CANADIAN SEDENTARY BEHAVIOUR GUIDELINES FOR THE EARLY YEARS

Aged 0-4 years
## Process Overview

<table>
<thead>
<tr>
<th>Timeline Event</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>November 2006</strong>:</td>
<td>CSEP think tank, Halifax, Nova Scotia</td>
</tr>
<tr>
<td><strong>December 2006</strong>:</td>
<td>CSEP Physical Activity guidelines steering committee established</td>
</tr>
<tr>
<td><strong>March 2007</strong>:</td>
<td>Working research retreat, Kananaskis, Alberta</td>
</tr>
<tr>
<td><strong>November 2007</strong>:</td>
<td>Launch of foundation papers in Applied Physiology, Nutrition and Metabolism (APNM) (32: S2), CSEP Annual General Meeting 2007. Including review on early years activity levels (Timmons et al. Physical activity for preschool children – how much and how?)</td>
</tr>
<tr>
<td><strong>January 2009</strong>:</td>
<td>International consensus meeting, Kananaskis, Alberta</td>
</tr>
<tr>
<td><strong>September 2010</strong>:</td>
<td>Early Years age group identified as gap area by the Public Health Agency of Canada and CSEP online and in-person stakeholder consultation</td>
</tr>
<tr>
<td><strong>October 2010</strong>:</td>
<td>Early Years guideline working group established</td>
</tr>
<tr>
<td><strong>March 2011</strong>:</td>
<td>Systematic review questions established, Toronto, Ontario</td>
</tr>
<tr>
<td><strong>December 2011</strong>:</td>
<td>International consensus meeting, Toronto, Ontario</td>
</tr>
<tr>
<td><strong>January 2012</strong>:</td>
<td>Post-stakeholder consultation and messaging meeting, Ottawa, Ontario</td>
</tr>
<tr>
<td><strong>February 2012</strong>:</td>
<td>Guidelines, information sheets and process papers translated to French</td>
</tr>
<tr>
<td><strong>March 2012</strong>:</td>
<td>Guidelines launched to Canadians</td>
</tr>
</tbody>
</table>
Background information

- Sedentary behaviour is becoming an important area of study in health research.
- It is defined as any waking behaviour associated with an energy expenditure ≤1.5 METs and a sitting or reclining posture, and is considered separate and distinct from a lack of moderate- to vigorous-intensity physical activity (i.e. not meeting specified physical activity guidelines)
- Children in the early years spend 73-84% of their waking hours being sedentary
- Young children engage in more than 1 hour per day of screen-time and are being exposed to screen-based activities before the age of 2 years
- Sedentary behaviour habits formed during the early years may track over time
Sedentary behaviour: systematic review

• Research Question:
  • What are the frequencies, interruptions, time and type of sedentary behaviour, as measured by direct and indirect methods, associated with improved health indicators in the early years?

• Health indicators
  • Adiposity
  • Bone and skeletal health
  • Motor skill development
  • Psychosocial Health
  • Cognitive Development
  • Cardio-metabolic health indicators
  • Risks or harms (musculoskeletal injury).

• Search identified 6,240 papers (5,265 after de-duplication); 21 unique studies included in the review (representing 22,417 participants); some covering more than one health indicator).
Scientific evidence

Increased television viewing is associated with unfavourable measures of:

- **Infants:**
  - Adiposity
- **Toddlers:**
  - Adiposity
  - Cognitive development
  - Psychosocial health
- **Preschoolers:**
  - Adiposity
  - Cognitive development
  - Psychosocial health

Further, no evidence exists to suggest television viewing is beneficial for improved psychosocial or cognitive development. In several instances, a dose-response relationship existed between increased time spent watching television and decreased psychosocial or cognitive development.

No specific information on the dose (i.e. frequencies, interruptions, times, or types)
Sedentary Behaviour Guidelines: preamble

These guidelines are relevant to all apparently healthy infants (aged less than 1 year), toddlers (aged 1-2 years) and preschoolers (aged 3-4 years) irrespective of gender, race, ethnicity or socio-economic status of the family. For healthy growth and development, parents and caregivers are encouraged to limit sedentary behaviours of infants, toddlers and preschoolers in the context of family, childcare, school and community.

The benefits of reduced sedentary time exceed potential risks. In particular, sedentary screen time is associated with detrimental effects on aspects of cognitive and psychosocial development and may be associated with adverse effects on body composition.

These guidelines may be appropriate for infants, toddlers and preschoolers with a disability or medical condition; however, their parents or caregivers should consult a health professional to understand the types and amounts of activities appropriate for them.

This recommendation places a high value on the harms associated with exposure to screen time, the value of having a guideline that is acceptable to parents and practitioners and the importance of avoiding screen time in the earliest years of development.

For guidance on increasing physical activity at all ages, please refer to the Canadian Physical Activity Guidelines (www.csep.ca/guidelines).
Information sheets
- Available in English and in French
- Online (in PDF format)
- Hard copies available to order (same process as for other guidelines)
Messaging

The Lowdown on the Slowdown: what counts as being sedentary

Sedentary behaviours are those that involve very little physical movement while children are awake, such as sitting or reclining:

- in a stroller, high chair or car seat
- watching television
- playing with non-active electronic devices such as video games, tablets, computers or phones

Spending less time being sedentary can help young kids:

- Maintain a healthy body weight
- Develop social skills
- Behave better
- Improve learning and attention
- Improve language skills

So cut down on sitting down. To reduce young children’s sedentary time, you can:

- Limit use of playpens and infant seats when baby is awake.
- Explore and play with your child.
- Stop during long car trips for playtime.
- Set limits and have rules about screen time.
- Keep TVs and computers out of bedrooms.
- Take children outside every day.
Sedentary Behaviour: *Preamble*

Preamble: Clarity

638 responses – 86% agree

Preamble: Agreement

623 responses – 92% agree
Sedentary Behaviour: Guidelines

Guideline: Clarity
601 responses – 95% agree

Guideline: Agreement
601 responses – 92% agree
STAKEHOLDER CONSULTATIONS
Development of guideline recommendations

The development of the new physical activity guideline recommendations occurred in four steps

1. Draft guidelines
2. Stakeholder consultations
3. Finalize guidelines
4. Messaging development
Consensus Meetings

• Two, separate 1.5 day consensus meetings of the Guideline Development and Research Committee were held in December 2011.
• The guideline recommendations were informed by evidence from the systematic review.
• Participants received background materials including documents that helped inform similar guidelines in the U.K. and Australia, as well as previous Canadian physical activity and sedentary behaviour guideline papers and information explaining the GRADE and AGREE II processes.
• The resulting product of the consensus meeting was a preamble to explain the guidelines, followed by the guidelines themselves.
Stakeholder Involvement

• Throughout the development process there was substantial stakeholder involvement including scientists, guideline developers, and future guideline users.
• A combined online survey with 6 PA-specific, 6 SB-specific and 6 common questions was developed.
• Survey distributed to a wide range of stakeholders interested in physical activity and health promotion in the early years including national and international content experts, health professionals, government and non-governmental organizations, teachers, caregivers and parents.
• Stakeholders asked about the wording of, and agreement with, the proposed physical activity and sedentary behaviour guidelines and their associated preambles.
Survey Respondent Profiles: *occupation*

English: 484 respondents

- Health professional (nurse, health promoter, dietitian, physiotherapist, etc.), 40.1%
- Early Childhood Educator, 20.9%
- Other, 18.8%
- NGO staff / board member, 11.2%
- Government, 11.8%
- Fitness Professional (CSEP-CPT, CSEP-CEP, certified kinesiologist, etc.), 11.4%
- Researcher - specializing in this area: physical activity, 8.9%
- Researcher - specializing in this area: sedentary behaviour, 5.8%
- Researcher - not specializing in this area, 3.5%
- Teacher - preschool, 3.7%
- Teacher - elementary, 4.5%
- Teacher - secondary, 1.4%
- Professor - post-secondary, 4.3%
- Physician - non-Pediatrician, 0.2%
- Physician - Pediatrician, 0.2%
- Other, 18.80%

Canadian Society for Exercise Physiology  March 22, 2012
Survey Respondent Profiles: *parents*

English: 360 respondents

- Parent of one or more children 0-4 years, 30.6%
- Parent of older children/youth, 45.0%
- Caregiver of older children/youth, 2.5%
- Caregiver of one or more children 0-4 years, 6.1%
- Grandparent of younger children/youth, 3.9%
- Grandparent of one or more children 0-4 years, 9.4%
- Grandparent of adult children, 0.6%
- Other, 9.16%
- Parent of adult children, 25.6%
Survey Respondent Profiles: geographical

English: 540 respondents

- Ontario, 50.4%
- Alberta, 10.7%
- British Columbia, 8.3%
- Manitoba, 8.0%
- Nova Scotia, 7.4%
- Saskatchewan, 4.4%
- Yukon Territory, 1.3%
- Prince Edward Island, 1.1%
- Quebec, 1.1%
- Outside Canada, 1.5%
- Northwest Territories, 0.7%
- Nunavut, 0.2%
- New Brunswick, 3.0%
- Newfoundland and Labrador, 2.0%

Canadian Society for Exercise Physiology
March 22, 2012
Guidelines’ Importance to Public Health / Your Practice

**English: 547/543 respondents**

- 541 respondents found guidelines important to Public Health.
- 495 respondents found guidelines relevant to their practice.

- **Yes**
  - Important to Public Health: 541
  - Relevant to Practice: 495
- **No**
  - Important to Public Health: 6
  - Relevant to Practice: 48

**French: 36/36 respondents**

- 36 respondents found guidelines important for Public Health.
- 32 respondents found guidelines relevant for their practice.

- **Oui**
  - Important for Public Health: 36
  - Relevant for Practice: 32
- **Non**
  - Important for Public Health: 4
  - Relevant for Practice: 0
Likely to use the Guidelines

**English:** 545 respondents

- Entirely Likely: 343
- Somewhat Likely: 102
- Not at all Likely: 11

**French:** 36 respondents

- Tout à fait probable: 22
- Assez probable: 7
- Pas du tout probable: 3

---

Canadian Society for Exercise Physiology  March 22, 2012
Development of the first Canadian Physical Activity & Sedentary Behaviour Guidelines for the Early Years (aged 0-4 years)

- Guided by expert consultants in concert with content experts
- Rigorous scientific process including a systematic review (submitted for publication)
- Background report (CSEP website)
- Process paper (peer reviewed, in press)
What’s available?

Information sheets:
- Available to order or download at [www.csep.ca/guidelines](http://www.csep.ca/guidelines)
- Or free of Charge from Service Ontario and the Government of Manitoba

Background information, scientific statements, AGREE report, process papers: available through [www.csep.ca/guidelines](http://www.csep.ca/guidelines)

Additional resources: [www.participACTION.com](http://www.participACTION.com)

Posters, vignettes and log books: available to order soon!
Additional resources

- [www.csep.ca/guidelines](http://www.csep.ca/guidelines)
- [https://www.surveymonkey.com/sr.aspx?sm=iQnlLRnD_2b2U4d7am2eWwK5z5JeBF3KgNg1ENkLqZUQ0_3d](https://www.surveymonkey.com/sr.aspx?sm=iQnlLRnD_2b2U4d7am2eWwK5z5JeBF3KgNg1ENkLqZUQ0_3d) (stakeholder survey results)
- [http://www.ijbnpa.org/series/canada_physical_activity](http://www.ijbnpa.org/series/canada_physical_activity) (systematic reviews)
- [www.ParticipACTION.com](http://www.ParticipACTION.com)
Questions?

• Contact Mary Duggan
  
  mduggan@csep.ca
Why do the guidelines suddenly jump down from three hours of physical activity recommended at age four, to just one hour at age five?

In the early years, a period of rapid growth and development, movement naturally happens at a variety of intensities and in short bursts, so children need at least 180 minutes to capture enough activity overall. Lower intensity activities are important for proper growth and development and higher intensity activities help promote good fitness, strong muscles/bones and healthy hearts. As children age and are able to do more focused, sustained and sophisticated movements, they can move in a more intense and consistent manner, and can get enough heart-pumping activity in sixty minutes. That is why the guidelines advocate a progression towards 60 minutes of energetic play by age five, which is consistent with physical activity guidelines for children and youth.
What would an ideal day look like for a child in his/her early years?

To improve health benefits, it is important to take a ‘whole day’ approach to healthy, active living.

Ideally, parents and caregivers should help children of all ages replace their sedentary time (especially passive screen time) with activities that engage them and help them move. Children aged one and under would be encouraged to reach and grasp, push and pull, and crawl. Children aged one to four would engage in at least 180 minutes of physical activity at any intensity throughout the day, including activities such as climbing stairs, playing outside and exploring the environment, running or dancing.
How do the new Canadian Physical Activity Guidelines for the Early Years compare to other physical activity guidelines for this age group in other countries?

As part of the development process we worked with stakeholders in other jurisdictions to try to harmonize the Canadian guidelines with the recommendations in the United Kingdom, Australia and the United States. The development of the Canadian guidelines followed a rigorous and transparent scientific process – based on a systematic review of the best available scientific evidence. The research that is the foundation of these guidelines will be published in academic journals on March 27, 2012.
What’s wrong with children sitting down to do crafts, read a favourite book or play a game?

These are all worthy activities, especially when this time is spent being engaged in learning or with parents, caregivers or peers. The Canadian Sedentary Behaviour Guidelines for the Early Years focus mainly on discretionary time and are meant to encourage active play and discourage prolonged periods of sitting and screen time. There is plenty of time allocated within the ‘whole day’ approach to enjoy some favourite sedentary activities.