



Physical Activity during the Early Years: Guideline Development from a Canadian Perspective

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What is physical activity?



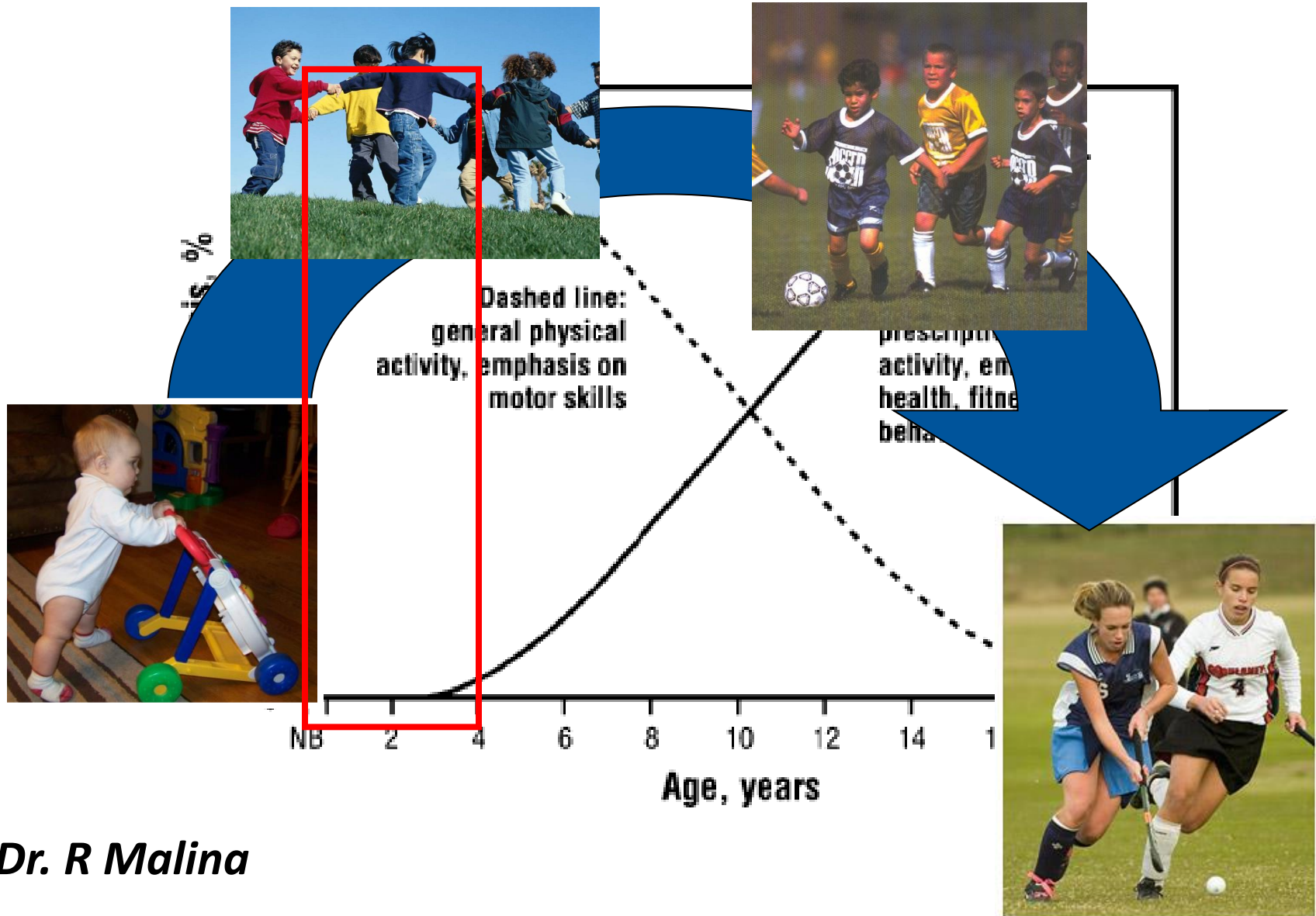
Physical Activity, Exercise, and Physical Fitness: Definitions and Distinctions for Health-Related Research

CARL J. CASPERSEN, PhD, MPH
KENNETH E. POWELL, MD, MPH
GREGORY M. CHRISTENSON, PhD

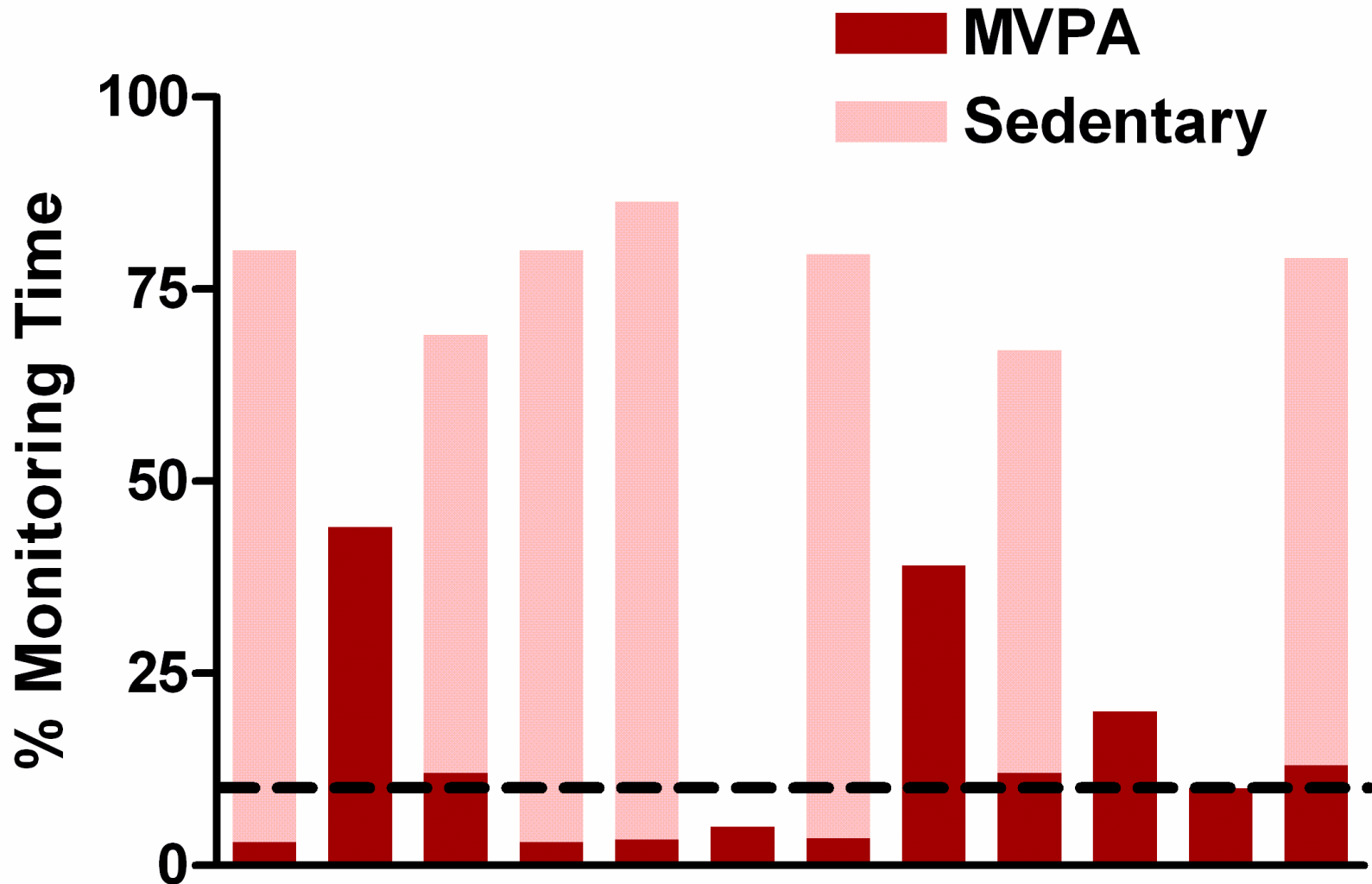
Public Health Rep. 100(2):126-31, 1985

*“Physical activity is
defined as any
bodily movement
produced by
skeletal muscles
that requires
energy
expenditure.”*

Physical activity during the early years



How active are preschoolers?



Guidelines for the Early Years??



Table 1. Guidelines for physical activity in preschool children prepared by the National Association for Sports and Physical Education.

Guideline	Criteria
1	Preschoolers should accumulate at least 60 min daily of structured physical activity
2	Preschoolers should engage in at least 60 min and up to several hours of daily, unstructured physical activity and should not be sedentary for more than 60 min at a time except when sleeping
3	Preschoolers should develop competence in movement skills that are building blocks for more complex movement tasks
4	Preschoolers should have indoor and outdoor areas that meet or exceed recommended safety standards for performing large muscle activities
5	Individuals responsible for the well-being of preschoolers should be aware of the importance of physical activity and facilitate the child's movement skills







120 min of Physical Activity

Physical Activity



Guidelines:

For healthy growth and development:

-  Infants (aged less than 1 year) should be physically active several times daily – particularly through interactive floor-based play.
-  Toddlers (aged 1–2 years) and preschoolers (aged 3–4 years) should accumulate at least 180 minutes of physical activity at any intensity spread throughout the day, including:
 -  A variety of activities in different environments;
 -  Activities that develop movement skills;
 -  Progression toward at least 60 minutes of energetic play by 5 years of age.
-  More daily physical activity provides greater benefits.

Sedentary Behaviour



Guidelines:



For healthy growth and development, caregivers should minimize the time infants (aged less than 1 year), toddlers (aged 1–2 years) and preschoolers (aged 3–4 years) spend being sedentary during waking hours. This includes prolonged sitting or being restrained (e.g., stroller, high chair) for more than one hour at a time.



For those under 2 years, screen time (e.g., TV, computer, electronic games) is not recommended.



For children 2–4 years, screen time should be limited to under one hour per day; less is better.

A brief history of (Guideline) time



2005: Report for the Canadian Society for Exercise Physiology and Health Canada: *“Factors Associated with Physical Activity in Early Childhood”*

NOVEMBER 2006: CSEP think tank, Halifax NS

MARCH 2007: Working research retreat, Kananaskis, Alberta

Twelve reviews (including one focused on preschoolers), introduction and conclusion papers discussed

NOVEMBER 2007:

Launch of foundation papers APNM (32: S2), CSEP AGM 2007. Including review on preschooler activity levels



REVIEW / SYNTHÈSE

Physical activity for preschool children — how much and how?¹

Brian W. Timmons, Patti-Jean Naylor, and Karin A. Pfeiffer

Appl. Physiol. Nutr. Metab. **32**: S122–S134 (2007)

- **Physical health:**

- Increasing physical activity levels by ~60 min per week (most studies use sessions of 20 min per day 3 × per week) can lead to improved bone properties, motor skills, and aerobic fitness.
- This approach appears to have little impact on adiposity; more activity may be necessary to prevent weight gain.

- **Psychosocial health:**

- As little as 20 additional min of aerobics-type activity per day may improve aspects of self-esteem.

A brief history of (Guideline) time



SEPTEMBER 2010:

Preschool age group identified as gap area by Public Health Agency of Canada and CSEP online and in-person stakeholder consultation

FEBRUARY 2011: CIHR knowledge synthesis grant awarded to complete a systematic review on physical activity and health indicators in preschoolers

MARCH 2011: Systematic review questions established, Toronto ON

Work begins on systematic review of physical activity and health in preschoolers. **Concurrently, begin work to inform sedentary behaviour guidelines for preschoolers**

What is the evidence?



What is the frequency, intensity, time and type of physical activity, as measured by direct and indirect methods, associated with improved health indicators in preschool aged children (0-4 years)?



Systematic review of physical activity and health in the early years (aged 0–4 years)

Brian W. Timmons, Allana G. LeBlanc, Valerie Carson, Sarah Connor Gorber, Carrie Dillman, Ian Janssen, Michelle E. Kho, John C. Spence, Jodie A. Stearns, and Mark S. Tremblay

Appl. Physiol. Nutr. Metab. **37**: 773–792 (2012)

A brief history of (Guideline) time



DECEMBER 2011: International consensus meeting, Toronto ON

Results of systematic review discussed, Preschool physical activity and sedentary behaviour guidelines drafted.

Online stakeholder consultation on wording of draft guidelines

MARCH 2012: Guidelines launched to Canadians

Process paper published in APNM in both English and French

Systematic reviews submitted for publication

AGREE II report published by CSEP

Guidelines from other countries



Toddlers and pre-schoolers: One to five years

RECOMMENDATION

180 min of Physical Activity

Toddlers (1 to 3 years) and pre-schoolers (3 to 5 years) should be physically active every day for at least three hours, spread throughout the day.

The need to consider multiple behaviours



GUIDELINES

For optimal health benefits, children and youth (aged 5–17 years) should achieve high levels of physical activity, low levels of sedentary behaviour, and sufficient sleep each day.

A healthy 24 hours includes:

CANADIAN 24-HOUR MOVEMENT GUIDELINES FOR CHILDREN AND YOUTH:

An Integration of Physical Activity, Sedentary Behaviour, and Sleep



SWEAT

MODERATE TO VIGOROUS PHYSICAL ACTIVITY

An accumulation of at least 60 minutes per day of moderate to vigorous physical activity involving a variety of aerobic activities. Vigorous physical activities, and muscle and bone strengthening activities should each be incorporated at least 3 days per week;

STEP

LIGHT PHYSICAL ACTIVITY

Several hours of a variety of structured and unstructured light physical activities;

SLEEP

SLEEP

Uninterrupted 9 to 11 hours of sleep per night for those aged 5–13 years and 8 to 10 hours per night for those aged 14–17 years, with consistent bed and wake-up times;

SIT

SEDENTARY BEHAVIOUR

No more than 2 hours per day of recreational screen time; Limited sitting for extended periods.

www.csep.ca

24-h movement during the early years



Sit Less, Move More, Sleep Well

**Active Play
Guidelines
for Under-fives**



MANATŪ HAUORA

New Zealand Active Play Guidelines



Sit Less

1. Provide regular activity breaks to limit the amount of time a child spends sitting.
2. Discourage screen time for under-two-year-olds and limit screen time to less than one hour every day for children aged two years or older – less is best!
3. Limit time in equipment that restricts free movement.

Move More

1. Provide fun activities that support physical, social, emotional and spiritual growth (at least three hours every day for toddlers and preschoolers, spread throughout the day).
2. Include plenty of opportunities for active play:
 - that develop movement competence and confidence
 - that provide sufficient challenges to build resilience and encourage creativity through exploration
 - where children are by themselves as well as interacting with others, such as parents, siblings, friends, whānau/family and other caregivers
 - that include a variety of indoor and outdoor activities, especially activities involving nature.

Sleep Well

1. Babies (birth to three months) should have 14 to 17 hours good-quality sleep every day, including daytime sleeps centred round their physical and emotional needs.
2. Infants (four to twelve months) should have 12 to 15 hours good-quality sleep every day, including daytime sleeps, which will tend to decrease as they get closer to one year of age.
3. Toddlers (one to two years inclusive) should have 11 to 14 hours of good-quality sleep every day, including at least one daytime sleep.
4. Preschoolers (three to four years inclusive) should have 10 to 13 hours of good-quality sleep every day, with consistent bedtimes and wake-up times.

Canada?



Canadian 24-Hour Movement Guidelines for the Early Years (0-4 years): *An Integration of Physical Activity, Sedentary Behaviour, and Sleep*

Coming November, 2017....

The End

