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Physical Activity in Early Childhood: Setting the Stage for Lifelong Healthy Habits



Physical activity is important to many aspects of child health and development. In young children, lack of physical activity is a risk factor for many health problems such as high blood pressure, weight gain, excess body fat, bad cholesterol, respiratory difficulties, cardiovascular diseases and bone health problems. Moreover, the health benefits of physical activity extend well beyond physical health, having a positive impact on the domains of motor skills, psychological well-being, cognitive development, social competence and emotional maturity¹⁻⁷.

Early childhood—that is, 0 to 5 years—is also a critical time for establishing healthy behaviours and patterns that will carry over into later childhood, adolescence and adulthood¹⁻⁴.

Until recently, it was generally assumed that young children were naturally physically active. In the last 10 years or so, it has become evident that many young children do not participate in sufficient physical activity to remain healthy⁴. According to the Canadian National Longitudinal Survey of Children and Youth (NLSCY), only 36% of 2 to 3-year-olds and 44% of 4 to 5-year-olds engage in unorganized sport and physical activity each week⁸.

Alarming trends in childhood obesity among preschool children have refocused attention on the importance of physical activity in this age group⁹. In Canada, national data show that 15% of 2 to 5-year-olds are overweight and 6.3% are obese⁸. In this context, various initiatives are underway to develop guidelines for physical activity in the early years.

Physical activity is typically categorized into different intensities². Light intensity physical activities for young children include dressing up in costumes, standing and painting, and slow walking. Moderate-to-vigorous physical activities include running, jumping and playing ball games. These activities happen through structured physical activities, which include any planned programs like gymnastics or swimming lessons, or through unstructured physical activities like playing at a playground, dancing or going to the park. Guidelines for physical activity in the early years focus particularly on facilitated unstructured play and the importance of

Developmental stages of physical activity

The 0-to-5-years age range includes three developmental periods, each characterised by different physical activity patterns¹:

Infant (0 to 12 months):

- First 6 months: Reaches and grasps objects, turns the head toward a stimulus, moves arms and legs.
- Second 6 months: Learns of rudimentary movement skills.

Toddler (1 to 3 years):

- Around 1 year of age: Starts walking, increasing opportunity for exploration and learning.
- 2 to 3 years: Develops locomotor skills such as running, jumping and hopping. Emergence of manipulative skills (skills that involve their hands—fine motor skills, like squeezing, grasping, pinching, etc).

Preschooler (3-5 years):

- Further development of balance, locomotor and manipulative skills.



“Infants, toddlers and preschoolers should not be sedentary, restrained or kept inactive for more than an hour at a time, with the exception of sleeping.”

getting children outdoors⁸ (see insert on *Active Play* below).

Sedentary behaviours generally involve sitting or lying down, and include television viewing, using a computer, reading and drawing, and motorized transportation.

Young children’s natural activity patterns tend to be intermittent, with short intense bursts of activity followed by periods of rest or lower intensity activity².

Although there is a strong consensus that more physical activity is better, there is insufficient evidence of the precise “dose” or amount and intensity of physical activity required for optimal development in early childhood². Difficulties in accurately measuring the unique physical activity patterns of young children come in part from the fact that young children spend their time in a range of different settings (home, childcare with trained or untrained staff, preschool with varying programs, etc.) and that self-reports are inappropriate at this age⁴.

Despite the sparse amount of research on physical activity in preschoolers, there is enough evidence to suggest that, once they are able to walk, they spend too much of their time sedentary and not enough time in moderate-to-vigorous activity. The table on page 3 provides tips and guidelines relating to physical activity (structured or unstructured) and inactivity in infants, toddlers and preschool-age children.

The role of parents and caregivers

Young children spend the greater part of their time with their parents or other significant adults, at home and in childcare facilities. Consequently, both parents and caregivers can have a strong influence on the child’s health behaviour.

They control the exposure to physical activity opportunities; they act as role models; and parents can use specific parenting practices, such as rules on television viewing^{1,5}. But there’s a lot more to promoting physical activity than limiting screen time.

Young children need parents’ and other adults’ support in accessing environments in which to be physically active. Research has shown that young children tend to be more active if their parents participate in physical activity and are active with them, and if they spend more time outside⁴. This means that parents should model healthy physical activity behaviours by being active themselves, and by interacting with their children in physical activities such as bike riding, walking and active play. Ideally, children need to spend several hours outdoors every day. Finally, because research has shown that boys tend to be more active and less often obese, parents should remember that their girls need to spend just as much time and energy being physically active as boys⁴.

Infants, toddlers and preschoolers should not be sedentary, restrained or

Active play: the importance of unstructured physical activity

One are the days when parents would tell their children to go outside, keep themselves busy and not come inside until dark! Today’s parents appear to be shifting their focus away from providing physically active free-play opportunities for their kids, opting instead for organized sport and recreation programs.

Yet unstructured physical activity is important for children’s development, and an essential component of getting kids to be more active. Recommendations indicate that at least half of the physical activity accumulated by young children should be in active play. Specifically, children aged 1 to 5 should get from one to several hours of daily, unstructured physical activity⁸.

Throughout the stages of childhood, the type and function of active play changes. Infants typically use play to establish voluntary motor control, while children in the preschool years use play as a form of exercise. Activities such as running and climbing serve not only to develop their muscles, strength, endurance and general movement skills, but are also beneficial for their cognitive and emotional development.

Regulation of arousal, development of a sense of mastery, enhanced social cognitions (negotiation, hierarchy and emotional awareness) and gains in spatial cognition are all potential mechanisms through which physical play (exercise and rough and tumble) may influence cognitive outcomes. There is also evidence that active, playground-type breaks can help young children concentrate better at subsequent sedentary tasks¹⁰.

Supporting active play

Families, childcare centres, schools and communities need to provide safe, supervised yet unstructured play spaces for active play, where children and their peers can engage in physical activity of their own design. This will increase physical activity levels and promote imagination, social interaction and the ability to learn and practise skills independently. Exercise play can be enhanced by providing challenging forms of climbing apparatus (always make sure equipment and spaces meet or exceed recommended safety standards). Whenever possible, children should be given access to play spaces and equipment outdoors. Studies have also reported that fewer children per square metre of outdoor space is a factor in promoting physical activity.

Tips and guidelines relating to physical activity and inactivity in infants, toddlers and preschool-age children*

	Structured physical activity	Unstructured physical activity	Sedentary and screen time
Infants (0–1 year) 	<ul style="list-style-type: none"> Encourage physical activity from birth, every day (moving arms, legs, reaching objects, etc.) Provide objects, toys and games that encourage infants to move and do things for themselves 	<ul style="list-style-type: none"> Respect natural activity patterns (spontaneous and intermittent) Promote gross motor play (e.g., develop head control, sitting, crawling) and fun locomotor activities Provide a safe, nurturing and minimally structured play environment, inside and outside 	<ul style="list-style-type: none"> Avoid TV and electronic media Replace screen time with interactive activities that promote brain development: singing, talking, playing and reading together Avoid prolonged periods restrained in high chair, stroller, etc.
Toddlers (1–3 yrs) 	<ul style="list-style-type: none"> Provide 30 minutes of daily (cumulative) structured physical activity Activities should be fun and occur through physical activity, but also as part of games, transportation and planned activities Encourage activity that helps child develop competence in movement skills (e.g., throwing, catching or kicking a ball) 	<ul style="list-style-type: none"> Provide 60 minutes to several hours of daily unstructured physical activity, as part of play, games, transportation and recreation Develop outdoor activity and unstructured exploration under adult supervision (e.g., walking in the park, free play) 	<ul style="list-style-type: none"> No more than 60 consecutive minutes of sedentary activity (except sleeping!) With children under 2, avoid spending time viewing TV or electronic media (DVDs, computer and electronic games) With children between 2 and 3, limit media time to no more than 1–2 hours per day of quality programming Do not put TV sets in bedrooms Encourage activities such as reading, athletics, hobbies and creative play Encourage child to walk instead of using the stroller
Preschoolers (3–5 yrs) 	<ul style="list-style-type: none"> Provide 60 minutes of daily (cumulative) structured physical activity Encourage activity that helps child develop competence in movement skills (e.g., throwing, catching or kicking a ball) Focus on participation, not competition 	<ul style="list-style-type: none"> Provide 60 minutes to several hours of daily unstructured physical activity, as part of play, games, transportation and recreation Ensure that free play is fun, safe, and allow for experimentation and exploration Include a few variables and instruction in unorganized play 	<ul style="list-style-type: none"> Limit media time to no more than 1–2 hours per day of quality programming Do not put TV sets in bedrooms Encourage activities such as reading, athletics, hobbies and creative play Encourage child to walk instead of using the stroller

*Selected and adapted from 2010 Active Healthy Kids Canada Report Card on Physical Activity for Children and Youth⁸, page 7

kept inactive for more than an hour at a time, with the exception of sleeping. For example, children should be encouraged to walk short distances rather than sit in a stroller, or to alternate walking and sitting for longer journeys. Parents can break up long car trips by stopping at a park or playground for 10 to 15 minutes⁵.

Interventions

Relatively few interventions to promote physical activity in children under 5 have been rigorously evaluated. The limited evidence, however, suggests that simple modifications to the outdoor play environment, such as the provision of “off-the-shelf” portable play equipment (like balls or jump ropes), can increase physical activity behaviour. Additionally, training educators to incorporate movement into the standard childcare and kindergarten



curriculum appears to be effective in increasing physical activity levels during the preschool day⁷.

Preschools, kindergartens and childcare centres should be encouraged to provide children with ample time outdoors on a daily basis, and to provide children with opportunities to be active indoors if the weather prevents them from going outside. Staff should be provided with training in young children’s physical activity, including appropriate activities and strategies. Girls may need sex-appropriate opportunities to be active. Finally, physical environments at centres should include a range of opportunities to support children’s physical activity, including a variety of portable and fixed play equipment and adequate shading.

Conclusion

With today’s lifestyles, most young kids are not moving enough. Yet the early years are critical, both for children’s physical and psychological growth and for developing lifelong healthy behaviours. More and more countries are developing physical activity guidelines for the 0 to 5-year period. Ensuring that childcare centres and preschools provide children with adequate outdoor play equipment and indoor play spaces can help. But ultimately, parents play the most important role. Not just by limiting screen time, but also by setting the example and providing opportunities for children to be active—whether it’s taking them to the park, the swimming pool or the skating rink, playing ball, or dancing with them in the living room.

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For a more in-depth understanding of physical activity topic, consult our synthesis and Experts’ articles in the *Encyclopedia on Early Childhood Development*, available free of charge at www.child-encyclopedia.com.

