



POSITION STATEMENT

Healthy childhood development through outdoor risky play: Navigating the balance with injury prevention

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Abstract

Free play is essential for children’s development and for their physical, mental, and social health. Opportunities to engage in outdoor free play—and risky play in particular—have declined significantly in recent years, in part because safety measures have sought to prevent all play-related injuries rather than focusing on serious and fatal injuries. Risky play is defined by thrilling and exciting forms of free play that involve uncertainty of outcome and a possibility of physical injury. Proponents of risky play differentiate ‘risk’ from ‘hazard’ and seek to reframe perceived risk as an opportunity for situational evaluation and personal development. This statement weighs the burden of play-related injuries alongside the evidence in favour of risky play, including its benefits, risks, and nuances, which can vary depending on a child’s developmental stage, ability, and social and medical context. Approaches are offered to promote open, constructive discussions with families and organizations. Paediatricians are encouraged to think of outdoor risky play as one way to help prevent and manage common health problems such as obesity, anxiety, and behavioural issues.

Keywords: *Active living; Children; Injury; Play; Risk*

Play is essential for children’s development and for their physical, mental, and social health^[1]. The right to play is recognized in the United Nations Convention on the Rights of the Child to be as fundamental as the rights to be cared for and protected from violence^[2]. Children engaged in free play are also building social and executive functioning skills that are critical for school readiness and lifelong achievement^{[3][4]}. Over the last several decades, family and social trends have increasingly prioritized the supervision and protection of children. A shift in the balance of play has also occurred, with unscheduled free play outdoors steadily giving way to planned, structured activities, including extra-curriculars and academics, in the lives of most children^{[3][5][6]}. Children are spending more of their recreational time indoors (and often on screens) than playing outside with minimal supervision^[1]. The 2022 ParticipACTION report card gave Canadian children a ‘D’ grade for overall physical activity and a ‘D-’ for active play^[7]. Many Canadian organizations are now calling for a shift in strategies to keep children “as safe as necessary” rather than “as safe as possible”, and a more balanced approach to healthy and active living that encourages the developmental benefits of risk-taking as well as preventing injury^[8].

This statement for paediatric health care providers (HCPs) describes the concept and benefits of outdoor risky play, along with its challenges and nuances related to children’s developmental stage, individual ability, and social and medical context. Approaches to promote open, constructive discussions with families and organizations are offered. Paediatricians are encouraged to think of outdoor risky play as a strategy to help prevent and manage common health problems such as obesity, anxiety, and behavioural issues^{[9][10]}.

What is risky play?

Risky play is defined by thrilling and exciting forms of free play that involve uncertainty of outcome and a possibility of physical injury^[11]. Based on evidence gathered over the last 15 years, primarily in children 1 to 13 years of age^[12], risky play is often further categorized into various play types (Table 1)^{[11][13]}. These categories are purposefully imprecise because activities can differ widely based on a child’s developmental stage (rather than age), past experience, and personality.

Table 1. **Categories of risky play, with examples**

Categories	Examples
Playing at height	Climbing, jumping, balancing at height
Playing at speed	Bicycling at high speed, sledding, sliding, running
Play involving tools	Supervised activities involving an axe, saw, knife, hammer, or ropes (e.g., building a den or whittling)
Play involving potentially dangerous elements	Playing near fire or water
Rough-and-tumble play	Wrestling, play fighting, fencing with sticks
Play with risk for disappearing or getting lost	Exploring play spaces, neighbourhoods, or woods without adult supervision, or in the case of young children, with limited supervision (e.g., hiding behind bushes)
Play involving impacts	Crashing into something or someone, perhaps repeatedly and only for fun
Vicarious play	Experiencing the thrill of watching other (often older) children engaging in risky play

Information drawn from references 11,13

More specifically, the category of “playing at height” could involve:

- A toddler climbing and jumping from a chair,
- An older child who feels confident in her/his motor and physical skills climbing a tree, several branches above the ground, or
- A child of similar age but with a different temperament, experience, and skill level climbing a small tree or stopping just a few branches above ground.

While the play looks different, all three children are engaged in risky play because they feel excited, thrilled, and challenged by their chosen activity.

Risky play is associated most often with activities outdoors or in nature because of the many challenging and creative opportunities for play these settings afford. Play involving natural, loose parts (e.g., gravel, sand, branches) or manufactured materials (e.g., tires, milk crates) that children can use in various ways, without specific direction, likewise supports rich opportunities for risky play^{[14]-[16]}.

Text box 1. **Risky play differentiates hazard from risk**

A **risk** arises in situations where a child can recognize and evaluate the challenge and decide on a course of action based on personal preference and self-perceived skill. For example, how high to go on a climbing structure or how fast to run down a slope.

A **hazard** is posed by situations where the potential for injury is beyond the child’s capacity to recognize it as such or to manage it. For example, an improperly anchored slide could topple under a child’s weight, or a rotten tree limb may break.

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Risk is inherent to free play. When children play spontaneously, they may choose to push boundaries and test limits. Risky play encourages creative, spontaneous play, first by eliminating hazards, then by supporting risk-taking that is chosen and controlled by the child and appropriate to her/his experience and ability (Text box 1)^[11]. The concept of risky play is a response, in part, to restrictive safety programs and measures that have become more broadly implemented—and sometimes mandated—in child care settings, schools, and playgrounds in recent years. Given the developmental benefits of play-related risk-taking (detailed below), some researchers are advocating for safety rules that effectively prevent serious injury and death while helping children develop risk management strategies that are essential aspects of healthy and active growth^{[1][17]}.

The literature on risky play has highlighted the need for a balanced approach between risk and hazard, where children’s overall health and well-being are served by addressing both their developmental and injury prevention needs. Environments such as a busy roadway or rough waters pose hazards that any responsible adult will recognize as hazardous. Yet some activities, like play around fire or rough-and-tumble play, offer a more nuanced relationship between risk and hazard,

especially when taking characteristics of the individual child into account. The adult's role is to identify hazards and remove or mitigate them, then to supervise appropriately for the type of activity as well as the child's skill level, personality, and developmental stage (which may also involve no supervision). The degree of autonomy children have can be determined by how well an adult knows the children at play and their capabilities. Adults should always be ready to intervene when child's play becomes a danger to self or others. Preventing children from engaging in risky play experiences is different from intervening in a timely manner that takes their skill level and self-confidence into account.

Risky play is *not*:

- Ignoring evidence-based and mandated safety measures (e.g., the use of helmets, car seats, life jackets, stair safety gates)
- Leaving children unsupervised in potentially hazardous situations (e.g., street play in traffic areas)
- Pushing children to take risks beyond their own comfort level.

Debate among researchers and decision-makers regarding the appropriate balance between risk-taking and injury prevention^[5] has led to the use of other terms besides "risky" to qualify play. Examples include 'outdoor play', 'nature play', 'active play', 'adventurous play', and 'free' or 'unstructured' play. These terms are defined in the "Terminology and taxonomy of the Play, Learn, and Teach Outdoors-Network (PlaTO-Net)^[14]. This work standardizes terminology and recognizes that organizations will understand the role and consequences of risk-taking differently and may prefer to use a range of terms to advance conversations about play. However, when children are free to play as they choose, risk is always present, though in different forms, and all descriptive terms imply some measure of risky play.

The benefits of risky play

A comprehensive literature search for the effects of risky play on children's health, undertaken in March 2022, found ample evidence of benefits for children's physical, mental, and social-emotional development, which are detailed below. Systematic reviews focused on the influence of nature and outdoor play on children's health found positive relationships with physical activity^{[18][19]}, well-being^[16], and with lowering perceived stress^{[12][18][20]}.

Physical health

Studies that assessed children's independent mobility (i.e., their level of freedom to travel and play in their neighbourhood without adult supervision)^[21] or the modification of play environments by adding loose parts, natural materials, and opportunities for risk-taking, showed increased levels of moderate to vigorous physical activity per day and decreased sedentary time^{[21]-[24]}. Risky play may also contribute to supporting engagement in physical activities for life, a concept known as 'physical literacy', which assumes individuals have the cognitive, affective, and physical skills to ensure lifelong physical activity-related behaviours. Physical literacy interventions have been shown to improve several outcomes related to physical activity and health^[25] and to reduce the likelihood of injury in sport settings^[26]. One recent study showed that outdoor play with loose parts provides children with opportunities to develop risk-assessment and fundamental movement skills through repeated movements, which are both components of physical literacy^[27].

Risky play may also contribute to modulating the immune system. A study published in 2020 showed that adding plants and natural or loose elements (e.g., logs, barrels, tires) to a daycare yard for digging and climbing led to increased skin bacterial diversity and modified gut microbiota in children (through changes in plasma cytokine levels and T-reg cell

frequencies)^[28].

Mental and social-emotional health

In addition to the positive effects of adding loose materials to the environment, increasing risk and challenges in school playgrounds can be positive for children's mental health. One study of rough-and-tumble play found that allowing this form of play at school led to more reports of pushing and shoving but fewer related to bullying. Rough-and-tumble play may help build resilience and conflict resolution skills in children^[29]. Studies have also associated rough-and-tumble play with better problem-solving scores in boys^[21]. Following a 3-month school-based intervention providing risky play opportunities, teachers reported lower conflict sensitivity and higher self-esteem and concentration among children in Grade 4^[30].

The literature appears to support opportunities for children to recognize and test their limits and tackle new challenges^[31]. Theoretical papers have suggested that children engaging in risky play will increase their socio-emotional skills and sense of belonging^[32]. Also, the ability to communicate, cooperate, and compromise with others improves in situations where children can test and push their own limits^{[21][32]-[34]}. Risky play helps facilitate children's exposure to fear-provoking situations^{[9][17]}, providing them with opportunities to experiment with uncertainty, associated physiological arousal, and coping strategies, which can significantly reduce children's risk for elevated anxiety^{[9][35]}.

Balancing the benefits of risk-taking with the possibility of injury

Injuries sustained during risky play are usually minor soft tissue injuries such as abrasions, contusions, and lacerations^[36]. Studies on the incidence of risky play-related injuries have tended to focus on playground equipment height, surfacing, and fall-related injuries, with inconsistent results^{[37][38]}. One study from New Zealand found fracture frequency and severity (mostly distal forearm) to be unrelated to the height of playground equipment^[37]. However, a systematic review of risk factors for playground injuries did associate falls from playground equipment higher than 1.5 m with higher fracture odds^[38]. While some stakeholders have asked for more scientific evidence confirming the safety of risky play^[39], the research has established that children are less likely to be injured while engaging in unstructured activities than when playing an organized sport^[40].

Head injuries and concussion are particularly concerning in children and youth. While both types of injury are increasing in sport^[41] and playground environments^[42], data on incidence during outdoor risky play are lacking but believed anecdotally to be low. Analysis of the Canadian Hospital Injury Reporting and Prevention Program (CHIRPP) data on proportion of injury types sustained during popular childhood activities between April 2011 and January 2023 was revealing. The injury rate from climbing trees (195 cases per 100,000 CHIRPP records) was between 5 to 22 times lower than for other popular activities, such as indoor and outdoor soccer (4296 cases per 100,000), falls from playground equipment (4090 cases per 100,000), cycling (2816 cases per 100,000), and skateboarding (881 cases per 100,000)^[43]. No child fatalities caused by falling from a tree have been reported in Canada in the past 20 years. Two playground-related fatalities occurred in Canada between 2007 and 2017^[44].

Some experts have attributed playground injuries to unexciting play structures. Low structures for all age groups and unnatural surfaces under play structures (e.g., synthetic surfacing rather than grass or sand) may lead to inappropriate equipment use and greater risk-taking^[1]. Bored children may resort to play indoors or on screens, which also has health consequences^{[5][45]}.

Is risky play equally appropriate for all child populations?

Concerns have been expressed regarding the unequal benefits of risky play for some populations, including Indigenous children, who face disproportionate levels of risk for injury in Canada^[46], and children who live in poverty or in marginalized neighborhoods^[47]. The literature search for this statement did not find an ongoing project or published literature assessing the effects of risky play in First Nations, Inuit, and Métis children. Indigenous community perspectives on risky play and how to adapt the concept for their own realities are not yet known.

One Canadian study demonstrated that parents living in a marginalized neighbourhood are often concerned about ‘having no extra money for (children’s) play’ and the ‘physical safety of play spaces’^[47]. A focus group of mothers new to Canada cited discarded needles, homeless people sleeping in parks, and proximity to the sex trade and drug users as barriers to outdoor play. These parents felt pressured to keep children indoors because they did not know and trust their neighborhood environments^[47]. This research highlights the critical role of community programming, schools, and daycares in providing physical spaces, materials, and human resources toward ensuring safe, equitable access to outdoor play^[47].

Children with disabilities can benefit from engaging in risky play. A study demonstrated that over-protection and lowered expectations of children with a medical condition or disability can reduce their self-esteem and sense of ‘belonging’ as well as impede independence^[48]. Encouraging children with a disability to engage in manageable risk-taking (i.e., activities they can assess for risk and control themselves) can promote autonomy and self-responsibility, and reduce social exclusion^[49] [50].

More research on the benefits and challenges of risky play for select populations is needed. In the meantime, however, making sure to include all children in risky play initiatives by accommodating and adapting play environments should be prioritized.

Reframing perceptions of risk

Protecting children from harm while ensuring their access to the opportunities and benefits of risky play can be challenging for parents, child care settings, and public policy-makers. Adults are responsible for providing the safe physical spaces and emotionally supportive environments that may also invite and optimize opportunities for spontaneous risky play. Such opportunities may include supervising children less closely (e.g., accepting that a child may climb higher, without a restraining hand or remaining at arm's length to break a fall). Ensuring there is time in a child’s schedule for free play, encouraging play with natural, loose parts (e.g., sticks, branches, or rocks), and allowing rough-and-tumble play are key conditions.

Communication and language around risk-taking is another factor that parents and educators may need to adapt in support of risky play. Cautions like ‘Be careful’, ‘Are you sure this is a good idea?’, ‘Slow down’, and ‘Not too high’ are often heard when supervising children. While caring adults usually mean ‘I love you’, ‘I care about you’, or ‘I worry about you’, children who are cautioned repeatedly may learn to hear: ‘You don’t trust me’ or ‘You don’t think I can do it’. Innocuous cautions, repeated often over time, can convey fear even when there is little or no danger present. Also, such ‘watchwords’ do not offer guidance for managing play in a risky situation, which can (again, used repeatedly over time) negatively influence children’s confidence in their own skills and decrease the appeal of active play^[50].

Some experts have suggested that parents practice pausing for 15 to 30 seconds to observe children's 'state of play' before intervening^[51]. The length of this pause depends on the individual child, situation, and activity being observed. When parents do intervene, their first focus can be on raising a child's awareness of a situation or behaviour, then helping the child to manage a predicament or problem-solve (Text box 2).

Text box 2. Phrases to enhance a 'teaching moment' during risky play^[51]

- Do you feel ... stable on that log of wood / the heat of that fire?
- Do you see ... your friends nearby / how high you are?
- Notice how ... these rocks are slippery / sharp this tool is.
- Are you feeling ... scared / excited / safe?
- What's your plan ... if you jump on that boulder / dig that hole?
- How will you ... get down / go up / get across?

Facilitating risky play opportunities for children

A 2012 review prioritized risky play for Canadian children based on extensive international experience^[1]. In 2015, a multi-sectoral, inter-disciplinary group of active and healthy living, injury prevention, and insurance and legal experts published the first Canadian position statement on active outdoor play and promoting the implementation of risky play^[8]. The Canadian Childcare Federation, the Canadian Public Health Association, and the Council of Chief Medical Officers of Health have also addressed the need for unstructured risky play in position statements^{[35][52][53]}. They, along with some provincial/territorial governments, have called for a shift in strategy to keep children "as safe as necessary" rather than "as safe as possible". The YMCA mandated risky play training for their child care staff in Canada and have shared the experience of rolling out this initiative at their website^[54].

Tools for parents, early childhood educators, teachers, designers, and administrators to help with the implementation of outdoor risky play follow the recommendations^{[35][44][55]-[62]}.

Recommendations

Child health care providers are well positioned to talk with families about the benefits of outdoor risky play for children's development, healthy and active living, and social-emotional well-being.

To help shift the emphasis of children's play toward greater risk-tolerance, paediatricians and other child health care providers are encouraged to:

- Educate families about the benefits of risky play as part of counselling and resource-sharing, alongside injury prevention, healthy eating, and purposeful screen time.
- Add risky play to their 'clinical toolbox' to help prevent or manage obesity, anxiety, and behavioural issues.
- 'Prescribe' active outdoor free play as an alternative to recommending an optimal number of hours of exercise per day or week.
- Help parents reframe their language around risk and hazard as children play.

Public health authorities and government policy-makers should:

- Support early childhood educators (ECEs), teachers, municipal authorities, and community organizers with evidence for the benefits of spontaneous outdoor play, and funding to introduce and build on opportunities for risky play.
- Help community, child care, and school settings comply with mandatory safety standards while improving opportunities for risky play.
- Help advocate locally—with child care settings, schools, and public parks—to enrich children’s play experiences by adding loose parts and natural elements and ensuring equitable access to risky play opportunities.
- Help fund training for ECEs, school authorities, and community advocates regarding the benefits of risky play and how to optimize local opportunities to promote play, starting with these resources.

Recommended tools and resources

- The Child Nature Alliance of Canada’s ‘Risk Benefit Assessment Toolkit (https://www.outdoorplaycanada.ca/portfolio_page/risk-benefit-assessment-for-outdoor-play-a-canadian-toolkit/)’ fosters a balanced approach to risk and safety.
- The Consortium for Health, Intervention, Learning and Development (CHILD’s) ‘7Cs: An informational guide to young children’s outdoor play spaces (<https://sala.ubc.ca/sites/sala.ubc.ca/files/documents/7Cs.pdf>)’ has designs to encourage risky play.
- Outsideplay.org offers an interactive learning experience for early childhood educators, teachers, and caregivers that helps increase tolerance of risk in play.
- The Canadian Public Health Association’s position statement ‘Children’s Unstructured Play (<https://www.cpha.ca/unstructured-play/>)’ has tools for municipalities and schools working to implement risky play spaces and settings.
- Appetite to Play. ‘Outside and Risky Play (<https://appetitetoplay.com/outdoor-play-and-risky-play-online-workshop>)’ is an online workshop for training child care staff.

To learn more about outdoor risky play, see resources at these websites:

- Parachute (<https://www.parachute.ca/en/>) (Canada’s national charity dedicated to injury prevention)
- Active for Life (<https://activeforlife.com/?s=risky+play>)

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