

# Preventing playground injuries



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Playgrounds have been identified as a significant setting for childhood injuries (1,2). Every year in Canada, an estimated 28,500 children are treated in emergency departments and hospitals for playground injuries. The majority of these injuries occur among elementary school-aged children (2-5). The most common mechanism of injury is falling from equipment, which is responsible for more than two-thirds of playground injuries (1-7). For children younger than five years of age, the head and face are most commonly injured. However, in older children, the extremities are most frequently injured. The most common diagnoses are fractures, followed by soft tissue injuries and lacerations (1,4,5,8).

## PREVENTION STRATEGIES

Because the majority of playground injuries are due to falls from equipment, prevention efforts should be directed at reducing the risk of falls and their impact. This reduction may be accomplished by the following.

- Reduce the maximum fall height of equipment. Strategies include:
  - modifying existing playgrounds to reduce the fall height to a maximum of 1.5 m (5 ft) for preschool-aged children and 2.3 m (7 ft) for school-aged children;
  - using innovative designs for new equipment with lower heights; and
  - using age-appropriate equipment.
- Reduce the likelihood of falling from equipment. Some examples include:
  - using protective barriers and guardrails;
  - using vertical rather than horizontal bars (discourages climbing);
  - using peaked or curved surfaces for guardrails (discourages use as a play surface); and
  - ensuring that adults are actively supervising.

- Improve the protective surfacing under and around play equipment. Appropriate surfaces include:
  - loose fill, such as coarse sand or pea gravel (smooth, round, pea-sized stones);
  - wood chips; and
  - synthetic surfaces.

Depth recommendations for loose fill: minimum of 15 cm (6 inches) for preschool equipment; minimum of 30 cm (12 inches) for full-sized equipment.

There are recommended guidelines for public playgrounds. These standards were first issued in 1990 (9) and were revised in 1998 (10). These standards are intended to improve playground safety and reduce the frequency and severity of playground injuries. Many Canadian playgrounds do not comply with these standards, particularly with respect to surfacing (2,11); however, compliance with surface standards (type and depth) has been shown to be effective in reducing the risk of injury (4,7).

## WHAT PARENTS CAN DO

- Check your child.
  - Clothing items can become trapped in equipment and may result in strangulation. Remove drawstrings and other cords from clothing. In the winter, use a neck warmer rather than a scarf, and use mitten clips rather than cords.
  - Bicycle helmets should not be worn by children on playground equipment due to the potential for entrapment and strangulation.
- Check your playground.
  - Choose playgrounds that 'fit' your child. Children five years of age and younger should use only playgrounds designed for preschool children.
  - Look for adequate surfacing – deep, loose fill (see recommended depths above). Good surface materials

include sand, pea gravel (smooth, round, pea-sized stones), wood chips and synthetic surfaces. Grass, dirt, asphalt and concrete are not acceptable surfaces for underneath and around equipment.

- Notify your local playground operator if you have concerns about the safety of your local playground. Playground safety checklists have been developed for parents to evaluate basic playground hazards and are available at your local or provincial injury prevention centre or Safe Kids Canada (1-888-SAFE-TIPS, 1-888-723-3847).

- Supervise children younger than five years of age.

#### WHAT HEALTH CARE PROVIDERS CAN DO

- Report playground injuries to your local playground operators and authorities.
- Educate playground operators about playground injuries and their prevention.
- Advocate for compliance with the Canadian Standards Association (CSA) playground standard in your community.

#### WHAT COMMUNITIES CAN DO

- Aim to achieve CSA compliance of all public playgrounds. This process includes the following:
  - inspection by certified experts to assess and document hazards;

- prioritizing hazards for modification or correction;
- maintenance of playground equipment, surfacing and grounds;
- injury reporting and follow-up to correct hazards; and
- planning of future play areas that comply with the standards.

Communities may wish to consider nontraditional types of outdoor play environments as an alternative to playground equipment. These play areas are less expensive to develop, and can be designed to be challenging for children's development without the risk of falling from equipment. Examples of this alternative form of playgrounds can be found at [www.evergreen.ca](http://www.evergreen.ca).

#### RESOURCES

Contact your local or provincial injury prevention centre or Safe Kids Canada (1-888-SAFE-TIPS, 1-888-723-3847) for more information. A community action kit with a catalogue of Canadian resources, such as playground checklists, fact sheets and videos, is available from Safe Kids Canada.

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**ACKNOWLEDGEMENTS:** This statement is based, in part, on materials developed by Safe Kids Canada <[www.safekidscanada.ca](http://www.safekidscanada.ca)>.

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The recommendations in this statement do not indicate an exclusive course of treatment or procedure to be followed. Variations, taking into account individual circumstances, may be appropriate.

*Internet addresses are current at time of publication.*