Playground Safety

Outdoor play helps children stay healthy – physically, mentally, and socially[1]. Safe play spaces are an important part of childcare programs, but poorly designed or maintained playgrounds can increase the risk of serious injury.

If you need detailed requirements for playground safety, refer to the CAN/CSA Z614 Standard, Children's Playground Equipment and Surfacing'. You can access it through the CSA website at CSA Z614:20 | Codes & Standards | Product | CSA Group.

Protective Surfacing and Falls from Equipment

Protective surfacing helps cushion falls from equipment. Loose materials such as engineered wood fiber/wood chips, play sand, pea gravel, shredded rubber, and mulch work well if installed at least 30cm deep (or as the manufacturer recommends). Rubber tiles or pour-in-place surfaces are also good options.

Falls from equipment cause between 75 and 80% of playground injuries. A Montreal study indicated that falls from equipment greater than 2m in height were twice as likely to cause serious injury than lower equipment[2].

Install protective surfacing under and around equipment that is more than 45cm off the ground. Grass or dirt may provide some cushioning for elevated equipment that is lower than 45cm. Elevated equipment should not be installed on concrete or asphalt.

Layout of Equipment

Children can be injured from collisions with moving equipment (swings, track rides) or by colliding with each other. To reduce this risk of injury, leave enough space between play structures and other obstacles such as



Play structure showing unobstructed area to prevent collisions around climbing equipment and the ends of slides.

fences, benches, or landscaping. A minimum of 1.8m should be maintained. Equipment that creates movement or momentum (swings, slides), may need additional space around landing or swinging areas to prevent injuries.

Entanglement

Loose clothing, hoods, scarves, and drawstrings can get caught on playground equipment and cause strangulation. Entanglements can occur where there are small cracks or openings. To prevent this, check for gaps and fill them.



Loose clothing, hoods, scarves, drawstrings, mitten cords, ropes and skipping ropes can strangle a child (if it becomes caught on play equipment). Health Canada, Playgrounds – Danger of Strangulation, 2005.

A child becoming entangled from catching their scarf (or drawstring) in the cracks/crevices at the top of the slide.

Head Entrapment

Head entrapment can occur when a child's body fits through an opening, but their head does not. This can lead to strangulation, particularly if the child goes feet-first through the opening. Openings between 3.5" and 9" can be dangerous.
Check the spaces between guardrail spindles and gaps between platforms to make sure they do not pose an entrapment hazard.



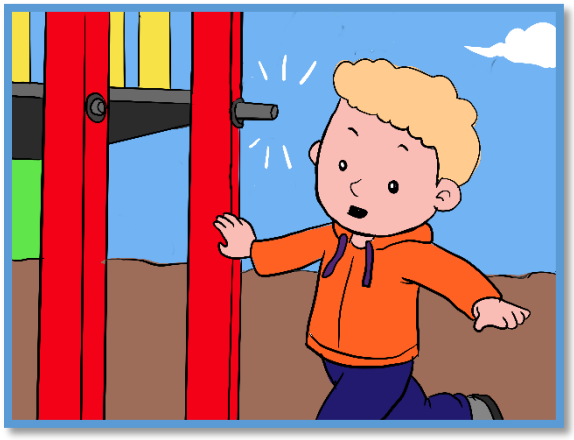
Improper spacing of vertical rails on equipment may result in entrapment. The child's body fits through the rails but the child's head does not fit, potentially causing strangulation.

Protrusions

Parts sticking out from equipment can cause injuries if children fall or run into them. Protrusions can also catch pieces of clothing worn around the neck and cause strangulation. Examples include:

- Bolt ends that are too long or are not covered.
- Support poles that extend out horizontally.
- Bolts or screws that increase in diameter.

Ensure bolts are no longer than two thread lengths and check equipment for other protrusions.



Child is at risk of injury from collision with a protruding pole.

Crush / Shear Points

Moving parts on playground equipment can pinch or crush fingers and other body parts. Check equipment to make sure parts don't move in a way that could trap fingers or other body parts. Check equipment to make sure parts don't move in a way that could trap fingers or other body parts. Also, look for sharp edges that could cut or



The springing/rocking equipment has a spring that collapses so that fingers or other body parts can be caught between the metal and cause a crush injury. When this type of equipment is used, moving parts must not collapse so they cause injury.

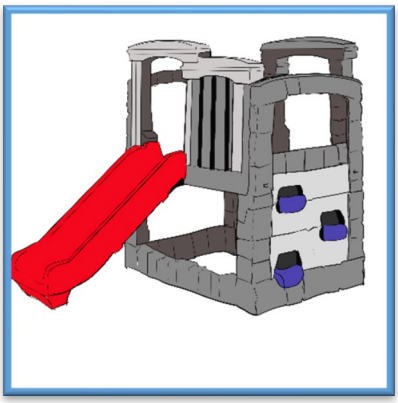
Equipment Design and Specifications

Playgrounds use many types of equipment. Some are designed to meet CSA standards for children's play spaces (CAN/CSA Z614:20), while others are smaller, movable plastic play items. Always follow the manufacturer's instructions, which may include:

- Recommended age group
- Maximum weight capacity
- Whether multiple users are allowed
- Whether the equipment is for residential or commercial use

Keep records of the make and model of all playground equipment. Equipment bought from big box stores is often designed for home use and may not meet CSA standards or be safe for all locations.

> *The play structure is a small moveable structure that is not certified to CSA Standards.*



Fencing

Fencing can contribute to providing a safe and secure daycare play area. Consider the following features to improve safety:

- A minimum height of 4 feet (depending on the location 5-6 feet may provide additional safety).
- No sharp edges, protruding bolts, or slivers.
- A design that discourages climbing.
- Solid fencing to provide privacy, if needed.
- A self-closing, secure gate.



Fence constructed with horizontal boards may not discourage climbing

In certain situations, such as rooftop play areas, operators may need to consult an engineer or safety codes officer for guidance on additional fencing requirements and design features.

Sun Safety and Lighting

Shade helps protect children from heat and UV rays. Shade can come from trees or artificial options like shade sails.

Playgrounds should also have good lighting so supervisors can see children and check equipment for hazards, especially during darker winter months.

Play Area Location

Play areas should be free from hazards like air conditioners, electrical outlets, sharp corners, and tripping risks. Mechanical equipment and moving parts should be enclosed or separated from play spaces.

Nearby land use can also create risks-such as traffic, poor air quality, water features, excessive noise, or exposure to extreme weather. Public Health inspectors may suggest changes to reduce these risks.

Use bollards or barriers to separate roads or parking areas from play spaces. Make sure children can access play areas safely without crossing drive-throughs, parking lots, or delivery zones.



Concrete bollards or barriers help prevent vehicles from crashing into play areas.

Avoid locating play areas near gas stations, dry cleaners, or industrial sites, as they may affect air quality. Consult with your district Public Health Inspector or municipal bylaw officer for guidance on safe distances.

Licensed childcare facilities should contact their district Public Health Inspector at Contact Environmental Public Health · Alberta Health Services or 1-833-476-4743 when designing or changing outdoor play areas or when making changes to an existing outdoor play area associated with the childcare facility. For schools, parks, or campgrounds, health inspectors can provide guidance during planning or renovations.

1. Brussoni M, Olsen LL, Pike I, Sleet DA. Risky play and children's safety: Balancing priorities for optimal child development. Int J Environ Res Public Health 2012;9(9):3134-48. doi: 10.3390/ijerph9093134
2. Laforest S, Robitaille Y, Lesage D, Dorval D. 2001. Surface characteristics, equipment height, and the occurrence and severity of playground injuries. *Injury Prevention*. 7(1):35-40.

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