

Bouncy Castles and Other Inflatable Amusement Rides

Safety issues and best practices for setup and use



The type of amusement ride known as a bouncy castle, jumping house or inflatable bouncer has become an extremely popular attraction at events such as fairs, fundraisers, and special activity days. Children clearly enjoy jumping around on a bouncy castle’s inflated floor or sliding down an inflatable slide.

While these “pillow-y”, air-supported structures look harmless, there are real injury risks associated with them—particularly when they are misused, operated without adequate adult supervision, or used in adverse weather conditions. In fact, with the proliferation of these devices in recent years, the number of bouncer-related injuries has risen sharply.

According to one study¹, more injuries are now occurring on inflatables than on mechanical amusement rides.

Another US study² analyzed emergency room data on bouncer-related injuries suffered by patients 17 years and younger. The study found that the most common mechanism of injury (43.3%) occurred within or off an inflatable, that fractures and sprains were the most common type injury, and that one in five of these children had suffered damage to the head or neck.

The following risk management guidelines outline best practices for the rental, safe set-up and safe operation of these structures.

Advance Planning

Each Canadian province or territory has a designated safety authority that issues licenses and permits for amusement rides, as well as certification for amusement ride operators. The safety authority determines which inflatable amusement devices, by virtue of their design features and the nature of the location in which they will be used, require a license and a valid permit. If you are planning to rent an inflatable amusement device, you should check with your jurisdiction's safety authority to determine what both you and the operator require in the way of permits. Most importantly, you should only work with professionals—companies that are fully insured and can provide a certificate of insurance that names your organization as an insured entity.

Before engaging the inflatable amusement device operator, your organizers should request:

- A valid permit and an up-to-date license for each inflatable amusement device to be used at the event
- Proof of liability insurance specific to the operation of inflatable amusement devices; the amount should meet the minimum value recommended by the safety authority of your province or territory

Ideally, the inflatable device operator will staff your event with trained personnel. However, there may be occasions when your organization will be handling the setup and/or supervision of an inflatable amusement device. In this case, it is extremely important to obtain written instructions from the operator or the manufacturer about the safe set-up and operation of the equipment and to ensure that all staff/volunteers receive proper training for the duties they will perform.

Safe Set-up

- Situate the inflatable device away from tree branches, fences, walls and overhead cables
- Make sure that the selected site has adequate space for anchorage
- Clear the grounds of large stones and sharp objects, and/or place an appropriate tarp on the ground to protect the bottom of the unit
- Setup/position the anchoring system and mechanical equipment so that they will not trip anyone entering or exiting the device
- Plug the blower into a GFCI (ground fault circuit interrupter)
- Make sure that the generator is CSA approved and that wires are properly secured in order to avoid a tripping hazard
- Make sure that the inflatable device is fully inflated and not sagging
- Check for rips or tears when the device is fully inflated
- Make sure that the operating area is clear of onlookers, so that the operators will have a clear view of the jumping surface and of users mounting and dismounting the inflatable
- Cover hard surfaces adjacent to the inflatable's open sides and entrances/exits with non-inflatable mats (e.g. gym mats) to a depth of at least 1.2 metres (4 feet)

Safe Operation

- Appoint at least one adult—and preferably two—to supervise children at all times when they are on an inflatable device
- Make sure that operators/attendants are familiar with what users are not permitted to do in or on the device
- Post safety rules in clearly visible areas so that users are aware of them before they are allowed to use the device
- Do not exceed manufacturer's specifications for the capacity of the inflatable
- Make sure that riders remove shoes, loose-fitting clothing, jewelry and other personal items before using the device
- Do not allow riders to take food, drink or sharp objects onto an inflatable amusement device
- Do not allow riders to attempt any kind of stunt—e.g. somersaults or wrestling—on an inflatable amusement device
- Make sure that only children of approximately the same size are permitted to play on an inflatable structure at the same time
- Do not allow children to sit or lie down on an inflatable's jumping surface while others are bouncing around them
- If the device has an inflatable slide, make sure that only one child at a time is using it
- Ensure that the inflatable is properly anchored and secured to the tether points in accordance with the manufacturer's guidelines
- If an inflatable unit deflates, remove occupants immediately

An Eye on the Weather

Inflatable amusement rides should not be used in rainstorms or high winds. Rain can make the jumping surface dangerously slick, and muddy conditions may impair the anchoring system. Strong winds can uproot inflatables and tip them

over. In some cases, gusts of wind have even torn bouncy castles loose from their anchors and lifted them into the air with children inside. Discontinue use of an inflatable amusement device in the event of rain or winds in excess of 24 km/h (15 mph).

Safety Authorities Across Canada

ALBERTA

Alberta Elevating Devices & Amusement Rides Safety Association (AEDARSA)

<http://www.aedarsa.com>

BRITISH COLUMBIA

BC Safety Authority

<http://www.safetyauthority.ca>

MANITOBA

Mechanical Engineering Branch

<http://www.firecomm.gov.mb.ca>

NEW BRUNSWICK

Technical Inspection Services

http://www2.gnb.ca/content/gnb/en/departments/public_safety/safety_protection/content/technical_inspection_services.html

NEWFOUNDLAND AND LABRADOR

Engineering and Inspections Division

<http://www.servicenl.gov.nl.ca/department/branches/divisions/engineering.html>

NORTHWEST TERRITORIES

Public Works and Services,
Electrical/Mechanical Inspections

<http://www.pws.gov.nt.ca/elec-mech/index.htm>

NOVA SCOTIA

Public Safety

<http://novascotia.ca/lae/publicsafety>

NUNAVUT

Public & Business Services, Safety Services

http://cgs.gov.nu.ca/en/public_safety.aspx

ONTARIO

Technical Standards and Safety Authority

<http://www.tssa.org>

QUÉBEC

Régie du bâtiment

<https://www.rbq.gouv.qc.ca/en/laws-regulations-and-codes/par-domaine/amusement-parkrides.html>

PRINCE EDWARD ISLAND

Inspection Services

<http://www.gov.pe.ca/environment/inspectionsservices>

SASKATCHEWAN

Technical Safety Authority of Saskatchewan

<http://www.tsask.ca>

YUKON TERRITORY

Department of Community Services

<http://www.gov.yk.ca>

For more risk control information, please consult an Ecclesiastical Risk Control Specialist in your region or visit www.ecclesiastical.ca

REFERENCES

- 1 "Amusement Ride Injury Data in the United States," by Kathryn Woodcock, published in Safety Science, vol. 62 (February 2014), pp 466-474
- 2 "Pediatric Inflatable Bouncer-Related Injuries in the United States, 1990-2010," by Meghan C. Thompson et. al., published online in Pediatrics, November 26, 2012

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