HARD LANDINGS:

INJURIES FROM BOUNCY CASTLES

Dr O O'Flynn, Dr K Cunningham

Emergency Department, Sligo General Hospital

Background

A Bouncy Castle is a large inflatable recreational space in the shape of a castle. Participants enter the castle and can jump about on the springy walls and floor of the interior. Bouncy Castles are also known as Bounce Houses or Moonwalks.

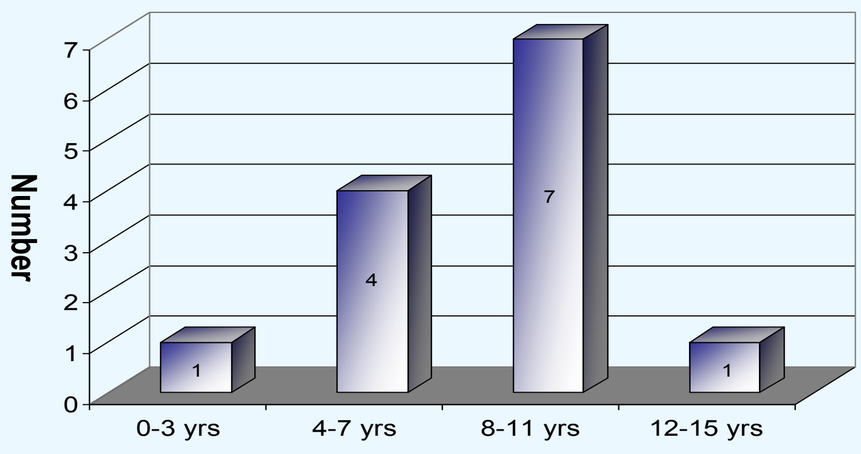
In recent years in the Republic of Ireland, use of Bouncy Castles has risen dramatically. Despite the increase in their use, there is little research on injuries sustained on Bouncy Castles. A few studies elsewhere have shown them to be a notable cause of injury, usually of a relatively minor nature[1] although they have been known to cause death[2] and serious spinal injury[3].

Methods

Prospective observational study of all patients attending Sligo General Hospital Emergency Department with a Bouncy Castle related injury during June, July and August 2006.

Results

In the 3 month period of surveillance, there were 14 Bouncy Castle related injuries. 8 of these occurred in males and 6 in females. All of the patients injured were children, ranging in age from 3 years to 15 years.



Body part injured	Number
Cervical Spine	1
Thoracic Spine	1
Elbow	3
Clavicle	1
Forearm	1
Wrist	3
Ankle	2
Foot	2

Nature of injuries

- 7 patients sustained soft tissue injuries including those to the forearm, elbow, ankle and foot, cervical and thoracic spine and a pulled elbow
- 1 patient had lacerations of both big toes
- 6 of the 14 patients had fractures
- 1 patient was admitted to hospital

Type of fracture	Age
Undisplaced supracondylar of right elbow	5
Left distal radius	6
Left lateral malleolus	7
Left clavicle	8
Left distal radius	8
Left distal radius	11

Mechanism of injury

Mechanism of injury	Number
Fell off Bouncy Castle	6
Injury/fall while on Bouncy Castle	5
Tripped on uninflated Bouncy Castle	1
Unknown	2

In 2 cases the injury was caused by another person falling onto the patient. In 1 case the injury occurred after the Bouncy Castle suddenly deflated.

The number of people on the Bouncy Castle at the time of injury could be ascertained in only 3 of the 14 cases. Thus we cannot comment on the influence of the number of users on the castle at the time of injury.

Conclusions

Bouncy Castles are responsible for an increasing number of injuries which present to Emergency Departments, particularly in the Summer months. In our department, all the injuries treated were minor, findings which mirror those elsewhere[1] but Bouncy Castles have the potential to cause more serious injury[2,3]. A significant proportion of injuries are caused by falling off Bouncy Castles onto adjacent hard surfaces.

Safety guidelines exist elsewhere for the use of Bouncy Castles but this is not the case in the Republic of Ireland. Without regulation, children will continue to sustain injuries associated with Bouncy Castles.

Recommendations

- Safety guidelines and standards are required for manufacturers, operators and users of Bouncy Castles.
- Bouncy Castles require
  - Constant responsible adult supervision
  - Limitation on the number and ages of users at any one time
  - Soft matting adjacent to the front or open sides
  - Avoidance of sudden deflation while in use

References

1. Singer G (1992) Injuries sustained on 'bouncy castles'. BMJ 304:912
2. 'Bouncy Castle Death' (2001). Injury Prevention 7:181-3.
3. McGuire et al (2006). 'Bouncy Castles' and cervical spine fractures: an unrecognized hazard. Eur J OrthoSurgTrauma 16: 154-5