

BACKGROUND

Indoor trampoline parks are increasingly popular, especially amongst children. Their proliferation across Australia has seen a rise in the number of injuries, including serious spinal injuries^{[1] [2]}. Deaths have been reported internationally^[3]. More than 20 new centres have opened in Australia since 2013^[4]. The trampolines in trampoline parks differ from domestic trampolines used in backyards across the country, both in design and patterns of use. They are generally large centres with multiple interconnected bouncing surfaces, foam pits and game areas. They are designed to be crowded and dynamic, attracting birthday parties, social groups and families. Thus, the injury mechanisms and type differ.

A recent prospective cohort study in NSW described 40 cases presenting to a paediatric emergency department over a 6-month period. A variety of mechanisms unique to the trampoline park environment were described. While most of the injuries were minor, 37% sustained fractures. One child sustained an unstable cervical spine fracture/dislocation. 12% were admitted and required operation^[3]. The study was limited by its small sample size, and the referral base being a single indoor trampoline centre.

Since that study, there has been one further Australian study using injury surveillance data from 3 states⁽⁵⁾ as well as various media reports and the authors have been contacted by concerned clinicians around Australia regarding injuries presenting at their centres including at least one further cervical spine injury.

In partnership with industry groups and workplace health and safety bodies, work has commenced on the development of a new Australian Standard for Indoor Trampoline Parks, based around the current voluntary code of practice. In addition, further research on the biomechanics of injury, in cooperation with Industry members, is in the planning stages.

However, given that paediatric injury from indoor trampoline parks is now increasingly recognised as an emerging public health and safety issue, we see a need for a national approach, particularly at quantifying and characterising the problem. A greater knowledge of the scale and scope of paediatric injuries will lead to more evidence-based and informed injury prevention strategies.

We propose a study in collaboration with the Australian Paediatric Surveillance Unit (APSU).

STUDY OBJECTIVES

1. To estimate the extent of injury requiring hospital admission, sustained at trampoline parks in Australia
2. To examine regional variations in nature and occurrence of severe injury due to indoor trampoline parks
3. To describe the circumstances in which the injury was sustained.
4. To describe the injury patterns
5. To describe the treatments required for injuries sustained.

CASE DEFINITION

Please report any child aged 0-15 years who is admitted to hospital as a result of injury/ies sustained while at an indoor trampoline park/facility

Exclusions: children injured on a domestic trampoline, or an outdoor recreational trampoline facility, children discharged from emergency department and not admitted to hospital

INVESTIGATOR CONTACT DETAILS (each state represented)

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PROJECT REFERENCE GROUP

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7. South Australia

- a. Dr Nicole William, Adelaide Women's and Children's Hospital.
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8. Northern Territory

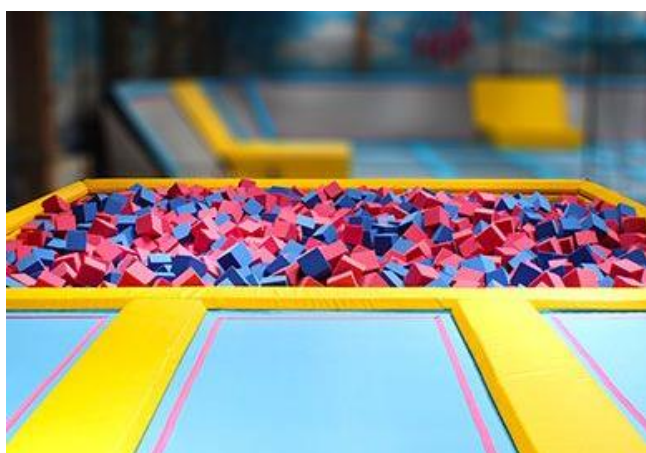
- a. Dr Kush Raj Shrestha, Orthopaedic Surgeon, Royal Darwin Hospital.
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In addition to this reference group, the National Trauma Nurses network and ITIM will be engaged to promote the project. The College of Surgeons Trauma Committee and Australian and New Zealand Association of Paediatric Surgeons will be asked to publicise the study to their members. Hospitals across Australia who see and admit children in their Emergency Departments will be identified. At these sites, information about the study will be sent to paediatricians, ED physicians, Surgeons and the ED NUMs. This information will inform them about the study and invite them to sign up for APSU notifications for the duration. The details being collected in the questionnaire will be summarised with a request for a focus on these aspects in history taking and EMR record keeping to facilitate ease of later questionnaire completion.

SELECTED REFERENCES

1. Sandler G, Nguyen L, Lam L, Manglick M, Soundappan S, Holland A. Trampoline Trauma in Children. *Pediatric Emergency Care* 2011;27:1052-6.
2. Hurson C, Browne K, Callender O, O'Donnell T, O'Neill A, Moore D, Fogarty E, Dowling F. Pediatric Trampoline Injuries. *Journal of Pediatric Orthopedics* 2007;27:729-33.
3. Mulligan CS, Adams S, Brown J. Paediatric Injury from Indoor Trampoline Centres. *Injury Prevention* 2016. doi:10.1136/injuryprev-2016-042071
4. Association, Australian Trampoline Parks. Code of Practice for Design, Manufacture, Installation, Operation, Maintenance, Inspection and Structural or Major Modification of Trampoline Parks. <http://www.atpa.org.au/wp-content/uploads/2014/09/ATPA-Industry-Standard.pdf2014>.
5. Sharwood LN, Adams S, Blaszkow T, Eager D. Increasing injuries as trampoline parks expand within Australia: a call for mandatory standards. *Australian and New Zealand Journal of Public Health*. 2018; 42:153-6; doi: 10.1111/1753-6405.12783.

Examples of Trampoline Park equipment and activities for reference



Foam Pit



Foam Pit

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Multiple Jumpers



Multiple Jumpers



Jumping Wall



Jumping Wall



Dodge Ball



Basketball

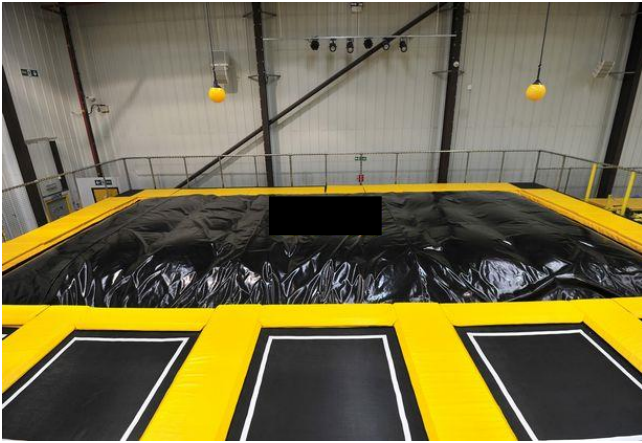


Balance Beam



Bubble Ball / Bubble Soccer / Sumo Ball

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Air Bag/Air Mat



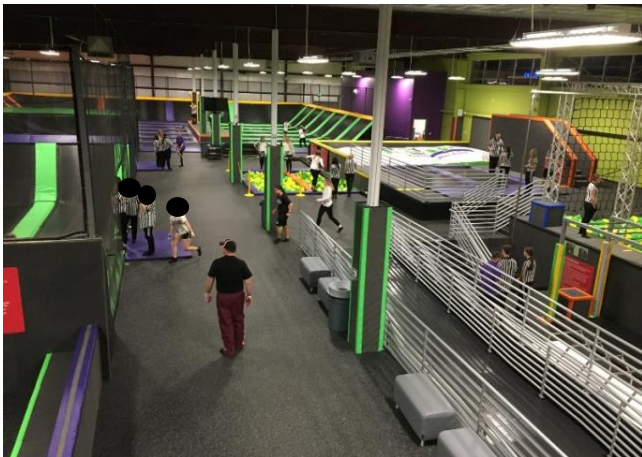
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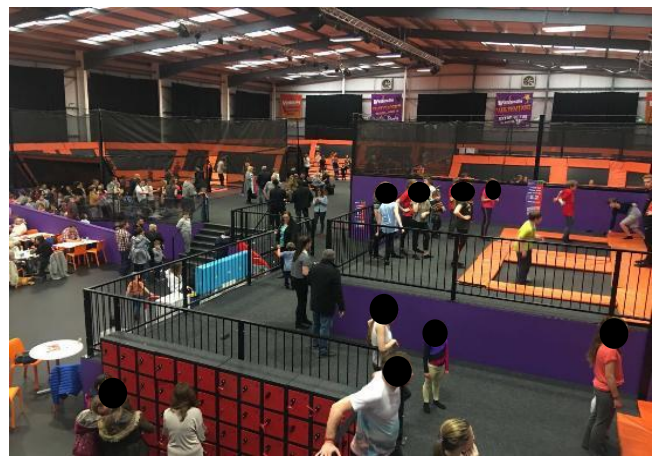
Bolsters between trampolines



Bolsters between trampolines



Concourse



Concourse