



Risk control

The Ups and Downs of Trampoline Parks



Introduction

Trampolines started to appear in the gardens of private houses within the UK around the turn of this century. Since that time, they have become incredibly commonplace, and the reasons why are understandable. The compact nature of the trampolines makes them an attractive proposition for all but the smallest of gardens. The relative success of British gymnastics at recent Olympic Games may have captured the imagination of young people. Equally, they can provide a valuable outlet for children to exercise and burn energy either alone or with friends in a relatively secure location, reducing the risk of stranger danger, and possibly prolonging the life of sofa's throughout the land.

Commercial trampoline parks are indoor facilities that have wall-to-wall trampolines ideally positioned to prevent users falling off on to hard surfaces. Padded or spring walls are also usually provided in order to reduce the risk of impact injuries.

An initial trend for trampoline parks in the USA in the late 1950's fell away, however, the parks have seen rapid growth around the world over recent years, with numbers rising in the UK from 3 in 2014 to over 200 in more recent times, with the International Association of Trampoline Parks (IATP) estimating the number of users at 15 million a year. Variations on the traditional trampoline park model have appeared, including 'ninja warrior' style assault courses which can include foam pits, diving boards onto giant airbags, swings, monkey bars, swinging climbing walls, ropes and many other elements.

The rise in popularity of trampoline parks has coincided with a reported rise in visits to Accident and Emergency facilities as a result of injuries sustained by users of the parks, some of which have been quite serious.

Overview

Who is at risk?

According to research conducted in Australia (Mulligan et al, 2016), indoor trampoline parks are increasing as a source of injuries among children. A prospective cohort study was conducted, with semi-structured interview and medical record review, of children aged <17 years presenting to a paediatric emergency department following an injury at an indoor trampoline park. In a 6-month period in 2014, 40 such children (55% female) presented to the department.

Common injury mechanisms included individual jumpers falling while attempting a somersault or trick, landing awkwardly on an obstacle such as a ball or protective padding, and multiple users colliding while on a single trampoline. Most sustained soft tissue injuries and fractured bones. One child sustained an unstable cervical fracture/dislocation.

Unlike domestic trampolines, where the majority of injuries occur from falling off, most trampoline-park injuries occur on the trampoline surface. These differences require injury prevention strategies that engage children, carers and businesses to meet best practice design and management standards.

A similar rise in trampoline park related injuries is also confirmed in the USA by a study (the American Academy of Paediatrics, 2016) that estimated that US emergency department visits for trampoline park injuries (TPI) increased significantly, from 581 in 2010 to 6932 in 2014, whereas home trampoline injuries (HTI) did not increase. Sprains and fractures were the most common injuries at trampoline parks and homes.

Compared with HTIs, TPIs were less likely to involve head injury, more likely to involve lower extremity injury, more likely to be a dislocation, and more likely to warrant hospital admission. TPIs necessitating hospital admission included open fractures and spinal cord injuries. TPI mechanisms included falls, contact with other jumpers, and attempted somersaults.

It is worth noting that neither report suggested that trampoline parks were becoming more dangerous, but that the increase in usage was resulting in a higher number of injuries being experienced through their use.

Developments and Standards

In order to address rising concerns over the risks associated with trampoline parks, the Royal Society for the Prevention of Accidents (RoSPA), the International Association of Trampoline Parks (IATP) and the British Standards Institute developed and published 'PAS 5000:2017 Specification for the construction and operation of a fixed indoor trampoline park'.

The PAS offers practical guidance for the construction of trampoline parks and the day-to-day operational and maintenance requirements. The PAS also includes, amongst other things, requirements that the designer and operator of the trampoline park construct a layout that reduces the risk to users and undertake a design risk assessment of the trampoline park before opening to the public.

The PAS covers emergency scenarios, including a dedicated section to an Emergency Action Plan and an emergency evacuation plan that covers how to safely clear the trampolines and evacuate the facility if required.

Although the PAS is a voluntary standard, parks must to comply with the standard if they wish to join the IATP.

The Law

The duties under UK law for the majority of leisure facilities such as sports centres and swimming pools are the same for trampoline parks. One key difference between these facilities and a trampoline park is the inherent nature and level of voluntary risk that visitors accept when using them.

The main law governing health and safety at work in the UK is **the Health and Safety at Work etc Act 1974** (HSWA). This Act places general duties on employers, the self-employed, and people in control of premises to ensure, so far as is reasonably practicable, the health and safety of their employees and anyone else that may be harmed by work activities or the workplace, e.g. members of the public.

Section 53 of the Health and Safety at Work Act 1974 defines "Fairground Equipment" as:

"fairground equipment" means any fairground ride, any similar plant which is designed to be in motion for entertainment purposes with members of the public on or inside it or any plant which is designed to be used by members of the public for entertainment purposes either as a slide or for bouncing upon, and in this definition the reference to plant which is designed to be in motion with members of the public on or inside it includes a reference to swings, dodgems and other plant which is designed to be in motion wholly or partly under the control of, or to be put in motion by, a member of the public.

It is therefore suggested in some parts that trampoline parks in the UK fall within the scope of the Health and Safety Executive's regime for health and safety compliance of fairground equipment.

The Management of Health and Safety at Work Regulations 1999 complement and expand on the general HSWA duties mentioned above, requiring employers, among other things, to carry out risk assessments and have effective arrangements in place for managing health and safety and emergency arrangements.

Equally, **The Occupiers' Liability Act 1957** should also be considered as it places a common law duty of care on persons in control of premises to 'take such care as in all the circumstances of the case is reasonable to see that the visitor will be reasonably safe in using the premises for the purposes for which he is invited or permitted by the occupier to be there.' It is important to note that this Act also states that 'an occupier must be prepared for children to be less careful than adults'. As an example, it may be that adults would take notice and act upon visible warning signs, but it shouldn't be assumed that children would do the same and so occupiers would need to take this into account when designing safety standards. **The Occupiers' Liability Act 1984** extends the duties placed on occupiers to include some responsibility to protect uninvited visitors. Uninvited visitors could include people such as the emergency services or trespassers.

The Corporate Manslaughter and Corporate Homicide Act 2007 increases the possibility for a corporation to be found guilty of homicide and manslaughter without the need to identify an individual within the organisation to prosecute. The offence of corporate homicide or manslaughter is related to the way in which senior managers organise the activities of the organisation.

Whilst prosecutors will need to establish that the criterion for a gross breach of duty of care has taken place, clearly there is scope for any organisation to be subject to the Act including trampoline park operators.

Other acts and regulations which may be considered as relevant to trampoline parks include, but not exhaustively, the Manual Handling Operations Regulations 1992, the Health and Safety (First Aid) Regulations 1981, and the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013. In England and Wales, the Regulatory Reform (Fire Safety) Order 2005 governs fire safety in non-domestic premises whilst in Scotland this is addressed by The Fire Safety (Scotland) Regulations 2006 and other associated documents.

Safety Management of Trampoline Parks

Legal duties are placed upon on a wide range of people according to their role in the design, installation and operation of trampoline parks. These include:

- **Designers, suppliers, manufacturers, installers and importers** have duties to ensure that the trampolines are safe when first supplied and installed, to carry out any necessary research and provide information about safe use, which is updated in the light of experience.
- **Organisers** have overall control of the trampoline park, and have duties concerning safe layout and emergency procedures such as first-aid, dealing with medical emergencies and fire safety evacuations.
- **Controllers** own or otherwise have control of the trampoline park, and have a duty to maintain it in a safe condition, including such things as regular inspections and maintenance of the facilities in direct accordance with manufacturers' guidance and legal requirements.
- **Operators** are in immediate charge of the trampoline park and have a duty to operate it safely. This includes ensuring that strict user safety guidelines are developed, clearly communicated to employees and visitors and enforced at all times, and that equipment is used safely and in direct accordance with its design philosophy.
- **Attendants** help to operate the trampoline park, and have a duty to take reasonable care for their own and others' safety, and to follow instructions. They should ensure park users strictly adhere to user safety guidelines at all times, and are trained and competent in the application of emergency protocols such as first-aid, medical emergency response, and fire safety evacuations.
- **Inspection bodies** provide inspection and testing services. Where they are engaged by other duty holders to perform specific tasks, it should be established that the particular type of inspection and testing service required is one that body is registered and competent to perform.

One duty common to all interested parties is the need to manage health and safety effectively. This includes planning and risk assessment. A range of risk assessments will be required. For example:

- **Designers** need to: identify how the public or employees might be injured, including risks arising from the need to inspect and maintain the trampolines and associated equipment, as well as from its use as an attraction and emergency situations; determine possible effects of 'foreseeable misuse' by the public, controllers or operators.
- **Manufacturers** need to: identify the risks to their employees and others during the manufacturing process.
- **Installers** need to: identify the risks to their employees and others during the installation process, such as risks from working at height, manual handling, electricity etc.
- **Organisers** need to: assess site risks, for example, access, transport, limitations of space, – produce a site layout which will minimise the risks; identify any planning, equipment, information and training needed to deal with emergencies.
- **Controllers** need to: assess the risks from assembling, maintaining and using the attraction.

In some cases the duties will overlap, for example, if one party designs, manufactures, and installs components of the trampoline park, or another party is regarded as the organiser, controller and operator. If this is the case, duty holders need to:

- identify any control measures, precautions, information, instructions and training needed to make sure that all jobs and activities are undertaken safely;
- review their assessment, where relevant, in the case of changes in design, manufacturing process, modifications, operating conditions, operational experience etc.

Conclusion

The use of trampolines should be considered as an extreme sport and managed as such. The reported rise in the number of injuries associated with the use of trampoline parks over recent years certainly justified the demand for, and publication of a publicly available British Standard (PAS 5000:2017).

Caution clearly needs to be demonstrated when selecting an appropriate trampoline park to utilise, particularly so in the context of the development of more extreme variations.

As a bare minimum, organisations and individuals are encouraged to select for use only trampoline parks who maintain membership of the IATP.

Membership of the IATP does not imply that a trampoline park is without risk. Risk is inherent within many of the sporting activities available within such facilities. But membership of the IATP does suggest that the owners and organisers of the trampoline park take risk management seriously and have adhered to the principles of the British Standard within their facilities. By doing so, the risks associated with using trampoline parks will not be eliminated, but they may be controlled.

Beyond IATP membership, additional risk factors to be considered prior to use include:

- Does the park provide a safety briefing which includes:
 - Manoeuvres not permitted
 - Hazards in the jumping area
 - Risks inherent in the park
 - First aid and emergency arrangements / procedures
- Are rules clearly displayed and strictly enforced?
- Are there adequate levels of trained supervisors at all times?

References

Legislation

1. The Health and Safety at Work etc Act 1974
2. The Management of Health and Safety at Work Regulations 1999
3. The Occupiers' Liability Acts of 1957 and 1984
4. The Corporate Manslaughter and Corporate Homicide Act 2007
5. The Manual Handling Operations Regulations 1992
6. The Health and Safety (First Aid) Regulations 1981
7. The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013
8. The Regulatory Reform (Fire Safety) Order 2005
9. The Fire Safety (Scotland) Regulations 2006

Other references

10. 'Trampoline parks: Regulation calls after injuries increase', published 6 March 2018, <https://www.bbc.co.uk/news/uk-england-43261578>
11. 'Paediatric injury from indoor trampoline centres', Christopher S Mulligan, Susan Adams, Julie Brown, 2016.
12. 'Trampoline Park and Home Trampoline Injuries', Kathryn E. Kasmire, MD, MS, Steven C. Rogers, MD, MSCTR, Jesse J. Sturm, MD, MPH, published by the American Academy of Paediatrics, 2016.

Other useful links

13. The International Association of Trampoline Parks:
<http://www.indoortrampolineparks.org/>
14. The British Standards Institute, PAS 5000:2017:
<https://shop.bsigroup.com/ProductDetail?pid=00000000030340353>

Further RMP Resources and Articles

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