



Kidsafe WA Childhood Injury Report: Sport Injuries 2019 - 2024

Partner:



Government of **Western Australia**
Department of **Health**

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INJURIES AT A GLANCE

25,994

Children were seen at Perth Children's Hospital Emergency Department (PCH ED) due to a sport-related injury between July 2019 and June 2024



5,198

Children per year are seen at PCH ED for a sport-related injury



59%

Of sport-related injuries occurred in children between 10 and 14 years

Sport Activity

Most common sport activities associated with sport-related injuries seen at PCH ED



12.0%

Football
(Australian Rules)



11.6%

Cycling



11.6%

Basketball



9.7%

Trampolining



9.2%

Soccer



66%

Of children presenting with a sport-related injury were male



56%

Of sport-related injuries were caused by falls or blunt force



42%

Of sport-related injuries were diagnosed as a fracture



88%

Of children presenting with a sport-related injury were discharged from PCH ED with treatment complete

INTRODUCTION

Kidsafe WA

Kidsafe WA is the leading independent not-for-profit organisation dedicated to promoting safety and preventing childhood injuries and accidents in Western Australia. Injuries are the leading cause of death in Australian children aged 0 to 17 and many of these deaths and injuries can be prevented. Kidsafe WA works in the community to educate and inform parents and children on staying safe at home, at play and on the road.

Perth Children's Hospital Emergency Department

Perth Children's Hospital (PCH) is the only paediatric hospital in Western Australia and is the referral centre for paediatric illness and injury within the state. Each year approximately 64,000 children present to the PCH Emergency Department (ED). The PCH ED Injury Surveillance System is designed to capture data related to all children who present with an injury. This report provides a summary of the Injury Surveillance System data collected between July 2019 and June 2024 related to children engaging in sport activities.

Sport-related Injuries

Participation in sport and recreational activities provides children with numerous physical, social and psychological benefits supporting healthy growth, fitness and motor skill development^{1,2}. Engaging in sport encourages teamwork, resilience and social interaction, while also promoting lifelong habits of physical activity through adolescence and into adulthood². Sport also plays an important role in supporting the social and emotional wellbeing of Aboriginal children by strengthening cultural identity and fostering community connection^{3,4}. Despite these benefits, children are inherently at risk of injury when participating in any physical activity, with injuries ranging from minor sprains and bruises to more serious injuries such as fractures and concussions^{5,6}. Understanding the prevalence, nature and circumstances of these injuries is essential for informing effective prevention strategies that keep children active while reducing the risk of avoidable harm.

In Australia, sport-related injuries account for a substantial proportion of hospital presentations amongst children and adolescents. National data show that hospitalisation rates for sport-related injuries increase with age, with children aged 13 to 15 years at particularly high risk, especially males^{5,7}. Fractures, dislocations and soft-tissue injuries such as sprains and strains are amongst the most common causes of hospitalisation, while concussions account for a notable proportion of head injuries⁷. Sports such as football, rugby, soccer and gymnastics are associated with high rates of injury hospitalisations for children, along with recreational activities such as cycling⁷. This highlights the need for injury prevention strategies that address both organised sport and informal recreational activities.

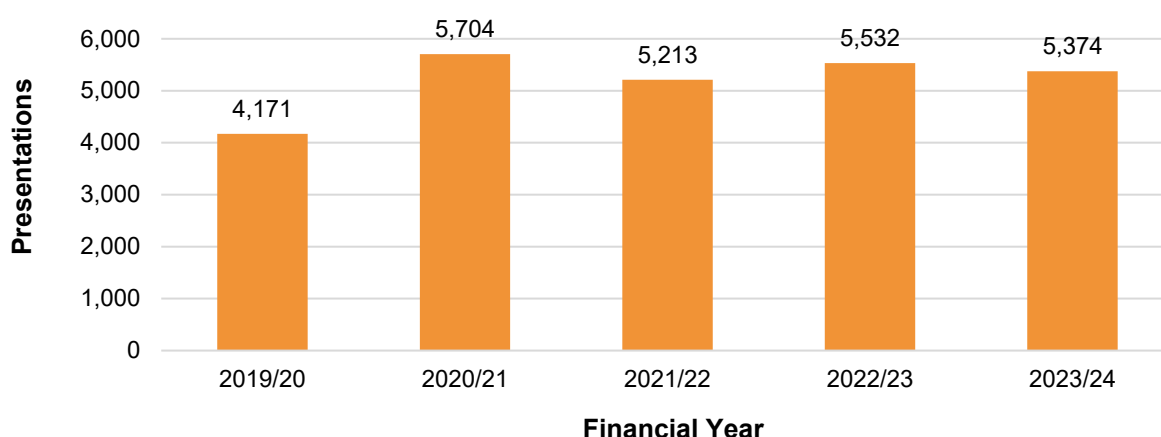
While the benefits of sport participation are clear, the potential for injury underscores the need for targeted and practical prevention strategies. Evidence suggests that the use of protective equipment, age and skill appropriate training, structured warm-up and cool-down practices, and education for children, carers, teachers and coaches, can help to reduce the frequency and severity of sport-related injury^{8,9}. While national hospitalisation data reflects more severe injuries associated with sport, it likely underestimates the true burden of sport-related injury with many children treated at emergency departments, local health services, or at home. The data presented in this report provides a focused snapshot of sport-related injury amongst children presenting to PCH ED. When combined with national injury trends, this local surveillance supports the development of targeted prevention strategies that promote safe and enjoyable participation in sport for all children.

DEMOGRAPHIC DATA

Emergency Department Sport-related Injury Presentations

Between July 2019 and June 2024, there were 25,994 sport-related injury presentations to the PCH ED (Figure 1), accounting for approximately one quarter (25.8%) of all injury related presentations during this period. The proportion of sport-related injuries increased from 22.1 percent in 2019/20 to 27.1 percent in 2023/24. A notable rise in presentations occurred between 2019/20 (n=4,171) and 2020/21 (n=5,704), after which numbers remained relatively stable. Over time, sport-related injury presentations have increased, with the current five-year period averaging 5,198 presentations per year, compared to 3,954 presentations per year at PCH ED between 2007 and 2017¹⁰.

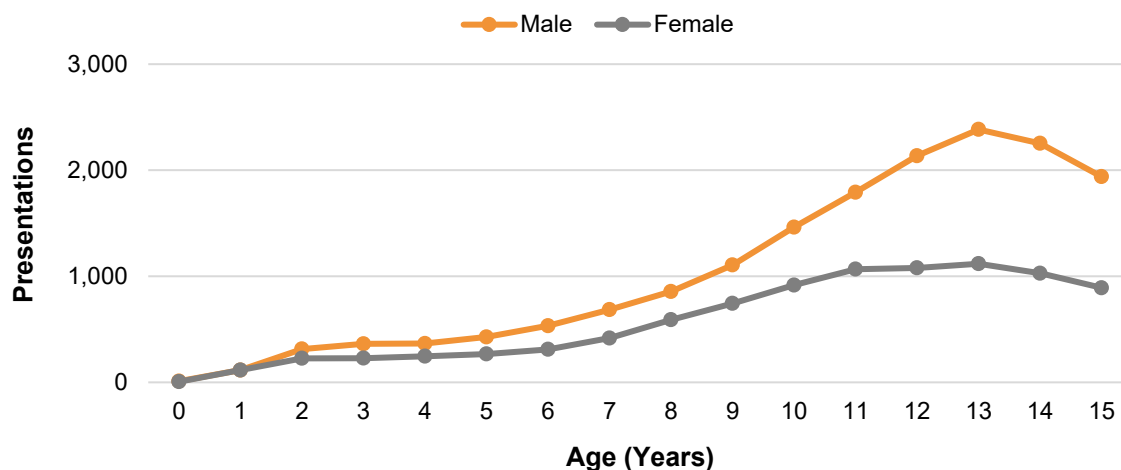
Figure 1: Sport-related Injury Presentations at PCH ED by Financial Year, July 2019 to June 2024



Age and Sex

Children aged 10 to 14 years accounted for over half of all sport-related injury presentations (58.6%, n=15,237) (Figure 2). A slight decline in presentations is observed in children aged 15, which may reflect increased use of non-paediatric health facilities around this age. Amongst children under five years, male and female presentation numbers were similar, with male presentations gradually increasing more than females from age six onwards. Overall, males accounted for 66.4 percent (n=16,744) and females 35.6 percent (n=9,250) of all sport-related injury presentations.

Figure 2: Sport-related Injury Presentations at PCH ED by Age and Sex, July 2019 to June 2024

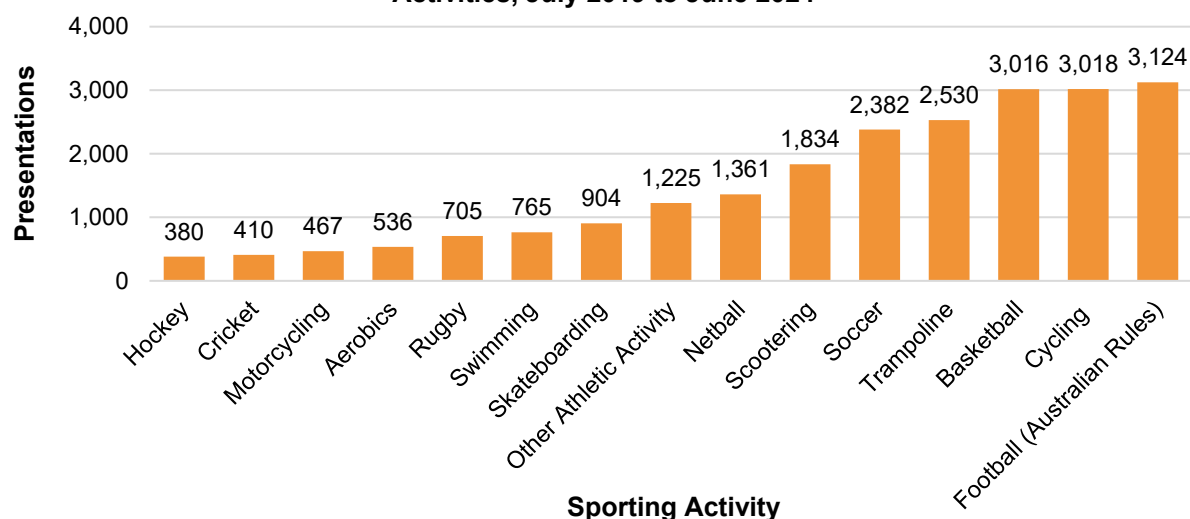


INJURY DATA

Sporting Activity

Football (Australian Rules) accounted for the highest number of sport-related injury presentations to PCH ED, representing 12.0 percent (n=3,124) of cases (Figure 3). Cycling (11.6%, n=3,018) and basketball (11.6%, n=3,016) were the next most common, followed by trampolining (9.7%, n=2,530) and soccer (9.2%, n=2,382). Other activities contributing to injury presentations included scootering (7.1%, n=1,834) and netball (5.2%, n=1,361). Compared with PCH ED data from 2007 to 2017¹⁰, basketball has moved to the top three sports, while trampolining and scootering have slightly shifted in rank. While these figures don't account for variances in participation rates for each sporting activity, they do provide a snapshot of the relative injury burden associated with each sport.

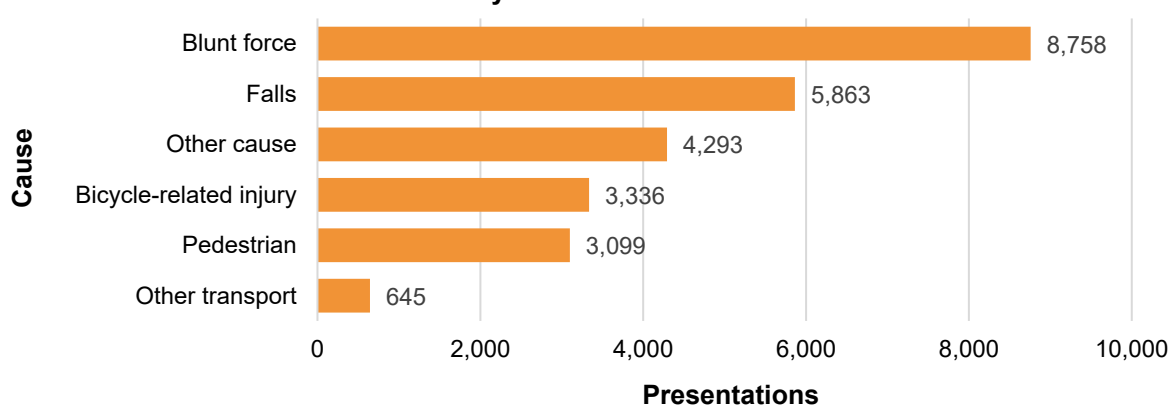
Figure 3: Sport-related Injury Presentations at PCH ED by Top Sporting Activities, July 2019 to June 2024



Cause

The most common causes of sport-related injuries were blunt force (collision-based injuries) and falls, accounting for 33.7% (n=8,758), and 22.6 percent (n=5,863) of presentations, respectively (Figure 4). Other notable causes included 'other' (16.5%, n=4,293), bicycle-related injuries (12.8%, n=3,336), and pedestrian-related injuries (11.9%, n=3,099). The 'other' category includes unspecified injury cause or those that do not fit into existing categories. Less common causes, each representing less than one percent of cases, were grouped under 'other' and included poisoning, burns and scalds, bites and stings, drowning and cutting and piercing injuries.

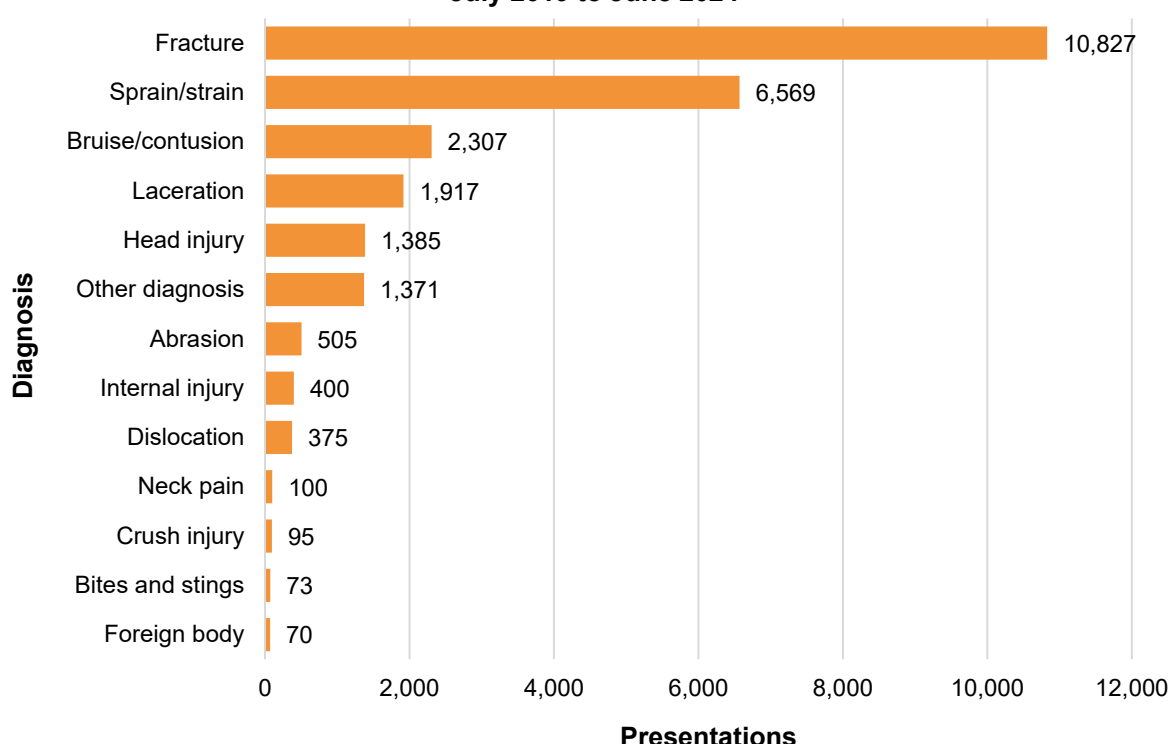
Figure 4: Sport-related Injury Presentations at PCH ED by Cause, July 2019 to June 2024



Diagnosis

Fractures were the most common diagnosis amongst sport-related injury presentations, accounting for 41.7 percent of all cases (n=10,827) (Figure 5). Sprains and strains were the second most common, representing 25.3 percent (n=6,569), followed by bruises and contusions (8.9%, n=2,307) and lacerations (7.4%, n=1,917). Head injuries made up 5.3 percent (n=1,385) of presentations, while 'other' diagnoses collectively accounted for 5.3 percent (n=1,371). The distribution of fractures and sprains/strains closely reflected the overall pattern of sport-related presentations, with football (Australian Rules), cycling, basketball, trampolining and soccer accounting for the majority of both diagnosis types.

Figure 5: Sport-related Injury Presentations at PCH ED by Diagnosis, July 2019 to June 2024



Injury Factor

Over half of all sport-related injury presentations (56%, n=14,443) were associated with an identified injury factor. The most common injury factor was wheeled equipment, accounting for 27.2 percent of cases (n=7,068). Other common factors included sports and recreational equipment (15.7%, n=4,077), trampolines (9.7%, n=2,527) and building components (3.3%, n=857). The remaining 44 percent of sport-related injuries (n=11,441) had no applicable injury factor recorded.

Safety Equipment

Presentation data on safety equipment usage was largely incomplete with 92.2 percent (n=23,962) recorded as unknown or inadequately described. Amongst all sport-related injury presentations, only a small proportion were recorded as wearing safety equipment including helmets (5.5%, n=1,426) and sport-related guards (0.1%, n=27). A further 2.1 percent (n=550) of presentations were recorded as not wearing any safety equipment, with the remainder of presentations recorded as not applicable.

TREATMENT DATA

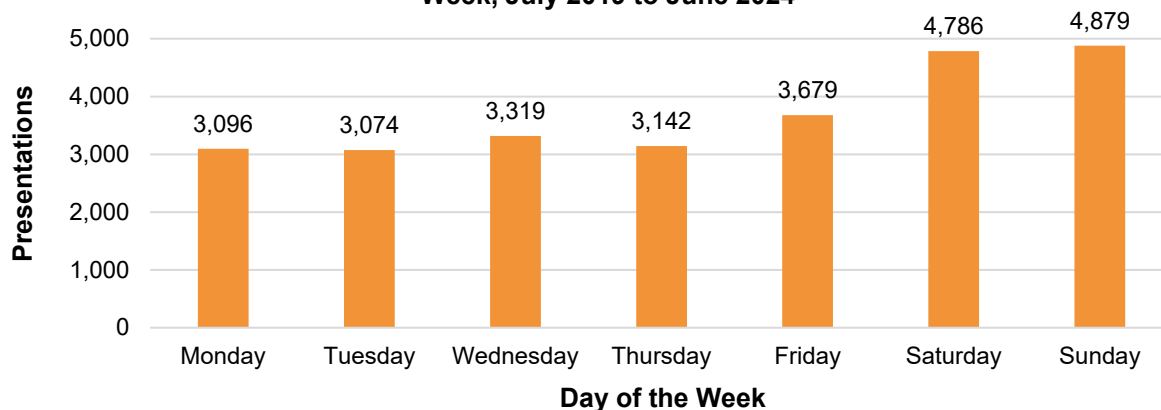
Time of Injury

For the majority of sport-related injury presentations, the time of injury was recorded as unknown (66.2%, n=17,221). Amongst presentations with a known time, injuries commonly occurred in the afternoon between 12:00 and 17:59 (19%, n=5,127), followed by the morning period between 6:00 and 11:59 (8.4%, n=2,179), and in the evening between 18:00 and 23:59 (5.6%, n=1,456). A small proportion were recorded as early morning between 0:00 and 5:59 (<0.1%, n=11).

Day of Injury

Sport-related injuries were recorded on all days of the week with the highest numbers occurring on Sunday (18.8%, n=4,879) and Saturday (18.4%, n=4,786) (Figure 6). Amongst weekdays, Friday had the highest number of injuries (14.2%, n=3,679), followed by Wednesday (12.8%, n=3,319), Thursday (12.1%, n=3,142), Monday (11.9%, n=3,096) and Tuesday (11.8%, n=3,074). A small proportion of cases were recorded as day of injury unknown (<0.1%, n=19).

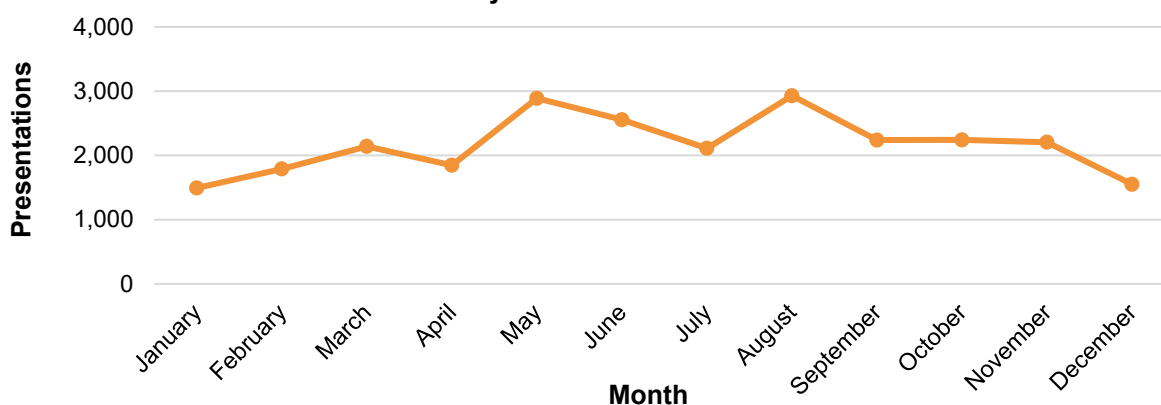
Figure 6: Sport-related Injury Presentations at PCH ED by Day of the Week, July 2019 to June 2024



Month of Injury

Sport-related injury presentations occurred throughout the year, with the highest numbers in August (11.3%, n=2,929) and May (11.1%, n=2,890) (Figure 7). June (9.8%, n=2,556), October (8.6%, n=2,242), September (8.6%, n=2,239), July (8.1%, n=2,111) and March (8.2%, n=2,141) accounted for moderate proportions of injuries. Lower numbers were observed in February (6.9%, n=1,790), April (7.1%, n=1,847), December (6.0%, n=1,551) and January (5.7%, n=1,493).

Figure 7: Sport-related Injury Presentations at PCH ED by Month, July 2019 to June 2024



Triage Category

Every child that presents to the PCH ED is allocated a triage category based on the urgency of medical attention required. The majority of sport-related injury presentations were triaged as Semi-Urgent (75.9%, n=19,724) or Urgent (18.9%, n=4,900). Smaller proportions were triaged as Emergency (4.4%, n=1,151), Resuscitation (0.7%, n=177) or Non-Urgent (0.2%, n=42) (Table 1).

Outcome of Attendance

The majority of children presenting with sport-related injuries were discharged with treatment complete (88.4%, n=22,988) (Table 1). A small proportion of presentations required admission to hospital for further treatment (10.3%, n=2,684). The remainder of presentations either did not wait for treatment, or the outcome of attendance was recorded as unknown or other.

Table 1: Sport-related Injury Presentations at PCH ED by Triage Code and Outcome of Attendance, July 2019 to June 2024

Triage Code	Presentations		Outcome of Attendance	Presentations	
	n	%		n	%
(1) Resuscitation	177	0.7%	Discharged	22,988	88.4%
(2) Emergency	1,151	4.4%	Admitted	2,684	10.3%
(3) Urgent	4,900	18.9%	Did not wait	259	1.0%
(4) Semi-urgent	19,724	75.9%	Other	63	0.2%
(5) Non-urgent	42	0.2%			

Referral Source

Most children presenting with sport-related injuries self-presented or were brought in by a relative (92.6%, n=24,056). The remaining presentations were either referred by a General Practitioner (3.8%, n=996), from another hospital (2.8%, n=734) or from a clinic (<0.1%, n=7). A small proportion of presentations were recorded as unknown or other.

DISCUSSION

Participation in sport provides children with important physical, social and psychological benefits, contributing to a healthy and active lifestyle^{1,2}. However, engagement in any physical activity inevitably carries a risk of injury for children⁶. While this report does not capture all sport-related injury in Western Australia, it provides a focussed snapshot of children presenting to PCH ED, highlighting the nature and severity of injuries associated with sports activities.

Between July 2019 and June 2024, 25,944 children presented to PCH ED with a sport-related injury, accounting for 25.8 percent of all injury presentations during this period. This aligns with national data showing that 21 percent of childhood injury hospitalisations involve sport, exercise or recreational activities⁵. Compared to previous PCH ED data from 2007 to 2017¹⁰, the average annual number of sport-related presentations has increased from 3,594 to 5,198 per year. While this increase may partly reflect higher participation rates, it may also be influenced by improved awareness and reporting practices in junior sports, particularly following updates to the Australian Concussion Guidelines in 2024¹².

Children aged between 10 and 14 years accounted for the majority of sport-related injury presentations at PCH ED (58.6%). This trend is consistent with national data showing that injury risk increases with age and peaks in early adolescence, likely reflecting higher participation in structured training and competitive sports^{7,11}, along with increased vulnerability during growth spurts¹⁴. Amongst younger children under five years, presentation numbers were similar between males and females, with male presentations gradually increasing from age six onwards. National evidence similarly shows higher hospitalisation rates for males, which may be due to greater participation in contact sports and engagement in risk-taking behaviours¹³.

The most common sport activities associated with injury were football (Australian Rules), cycling, basketball, trampolining and soccer. Compared with the 2007 to 2017 PCH ED data¹⁰, football and cycling remain the leading causes of injury, while basketball has moved into the top three. Notably, many injuries occurred outside of organised team sports such as cycling, scootering and trampolining, highlighting that sport-related injuries are not limited to formal sporting environments. The leading causes of sport-related injury were blunt force (collision-based) and falls, accounting for 33.7 percent and 22.6 percent of cases, respectively. Fractures were the most common diagnosis, followed by sprains and strains, aligning with national data showing fractures as a leading cause of sport-related childhood injury^{5,13}. Data on safety equipment use were largely incomplete, with over 90 percent recorded as unknown or inadequately described. Only a small proportion were recorded as wearing safety equipment including helmets and sport-related guards.

Sport-related injuries were more common on weekends, particularly Saturdays and Sundays, reflecting typical organised sport schedules. Most injury presentations were triaged as Semi-Urgent or Urgent, with 88.4 percent of cases discharged from ED with treatment complete. Only a small percentage of cases were triaged as Resuscitation or Emergency, with 10.3 percent of cases requiring admission for further treatment. This indicates that while sport-related injuries are common, the majority are able to be managed within an ED.

Overall, the patterns observed in sport-related injury presentations to PCH ED closely reflect national childhood injury trends. The findings in this report provide insight into the key risk factors and circumstances associated with sport-related injury. This insight can be used to inform targeted prevention strategies to reduce the frequency and severity of injuries while keeping children active, safe and engaged in rewarding sports activities.

PREVENTION

Putting steps in place to reduce the risk of injuries in sport is essential for keeping children safe, healthy and engaged in physical activity. Effective prevention measures include awareness of common risk factors, use of appropriate protective equipment, age and skill appropriate training and promoting safe training, competition and playing environments^{8,9}. This also applies to home environments where children participate in recreational activities such as trampolining, cycling and scootering. While preventing injuries is a priority, safety measures can also help reduce the severity of injuries if they do occur. Parents, carers, coaches and children all play a vital role in injury prevention and recognition and should be equipped with the knowledge to manage injuries correctly to avoid further harm.

Prevention

- Ensure children wear appropriate protective equipment for their sport, including helmets, mouthguards, padding, footwear and eyewear.
- Always include warm-ups and cool-downs before and after training and games.
- Choose age and skill appropriate sports, rules and competition levels.
- Encourage gradual progression in training and skill development to prevent overuse injuries.
- Ensure children stay hydrated, wear SPF50+ sunscreen and sun-protective clothing.
- Check that playing environments, sport equipment and recreational equipment (bikes, scooters, trampolines) are safe and well-maintained.
- Ensure trampolines meet the Australian Standard AS 4989 and always follow safety instructions for the installation and maintenance procedures.
- Always supervise trampoline use ensuring only one child at a time to avoid collisions.
- Encourage safe riding practices including helmet use and riding away from hazards.
- Don't allow children to play sport or recreation activities if they are tired, ill or injured.
- If a child is suspected of having a concussion, do not allow them to return to play. Refer to the [Australian Concussion Guidelines for Youth and Community Sport](#)¹².
- Promote a culture of safety and ensure coaches, supervisors and carers are informed of any medical conditions or past injuries.

Treatment

- Have an injury response plan outlining steps for immediate care and when to seek help.
- Learn basic first aid and resuscitation techniques for emergencies.
- Keep a well-stocked first aid kit at home and at all training and games.
- Manage return to play safely and always see a healthcare professional when a concussion is suspected.
- If a child receives an injury, the following management approaches should be used:
 - DRSABCD**
Danger, Response, Send for Help, Airway, Breathing, Compression, Defibrillation
 - RICER**
Rest, Ice, Compression, Elevation, Referral
 - NO HARM**
NO Heat, Alcohol, Running or Massage

Kidsafe WA supports families, schools and sporting organisations to create safer environments for children participating in sport and recreation activities. Through the *Let's Make Sport Safer* campaign, Kidsafe WA offers practical guidance, resources and education to help reduce the risk of injury and keep children active and enjoying sport safely. Learn more at www.kidsafewa.com.au/lets-make-sport-safer/.

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