

Bicycle Injuries: Two Wheels & On the Move



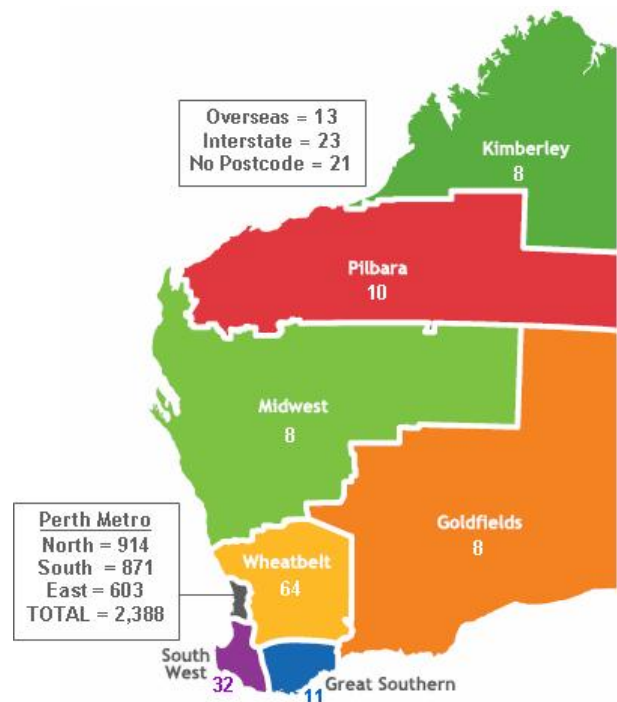
Childhood Injury Presentations: July to September 2006

- There were 14,104 presentations to Princess Margaret Hospital Emergency Department (PMH ED) from July to September 2006.
- Injury presentations accounted for 20.5% (n=2,889) of the total number of PMH ED presentations.
- The leading cause of injury presentations to PMH ED from July to September was Falls (41.5%, n=1,213).
- 94% of presentations were for children from the metro area, with a further 5.1% from rural WA, and 0.9% from interstate/overseas.
- For July to September 2006, 95.5% of injury presentations were unintentional, with a further 2.4% undetermined intent, 1.1% Intentional Self harm and 1.0% Alleged Assault
- So far this year (January to September 2006) there have been 8,820 injury presentations to PMH ED; an increase of 7.6% (n=671) compared to the same time last year.

Introduction - Bicycle Injuries

- There were 2,588 bicycle related injury presentations to PMH ED in the 6 year period from July 2000 to June 2006.
- Children aged 11 to 13 years of age accounted for the highest number of bicycle injuries (11: n=275; 12: n=292; 13: n=277).
- The Road/Pathway (n=1,349) was the most common location for bicycle injuries to occur, followed by the Home (n=607).
- Metropolitan children accounted for 92.3% of bicycle injury presentations to PMH ED and rural children accounted for 5.5%. 2.2% were either missing a postcode classification or from Interstate/overseas locations.

Figure 1: Number of Bicycle Injury Presentations for children aged 1-16 years by Health Region, 2000-2001 to 2005-2006 financial years



Results

Bicycle injuries rank 6th as a cause of injury presentation for children to PMH ED from a total of 12 options. For July to September 2006, they accounted for 3.7% of all injury presentations to PMH ED.

The following summary of data is broken down by gender, age, aboriginality, location, the presence of safety equipment at time of injury, type and cause of injury. The data is from injury presentations to PMH ED from July 2000 through to June 2006.

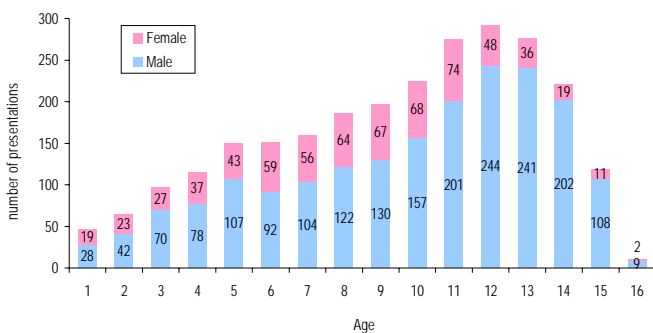
On average, 431 bicycle related injury presentations are seen at PMH ED each year. For the period 2000/01 to 2005/06, the highest number of bicycle related injuries were seen in 2003/04 (n=524).

Age and Gender

Males were over represented at PMH ED for bicycle related injuries, accounting for 75% (n=1,935) of presentations, while females only accounted for 25% (n=653).

Children aged 10 to 13 years of age accounted for the highest number of bicycle injuries (10: n=225; 11: n=275; 12: n=292; 13: n=277). This was followed by children aged 5-9 years (n=555) and children more than 13 years of age (n=319). The least likely age group to present to PMH ED as a result of bicycle injuries are children less than 5 years of age (n=218) (See Figure 1).

Figure 1: Bicycle Injury Presentations by Age & Gender, 2000/01 to 2005/06



Ethnicity



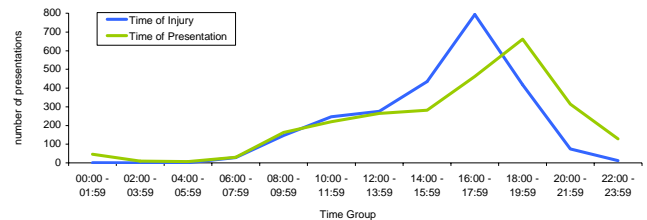
From: www.mgbala-agwa.org

Aboriginal and Torres Strait islander children accounted for 4.9% of bicycle related injury presentations to PMH ED for the six year period 2000/01 to 2005/06. A further 1.4% was of unknown ethnicity, while 93.7% were of other ethnicity.

Time of Injury

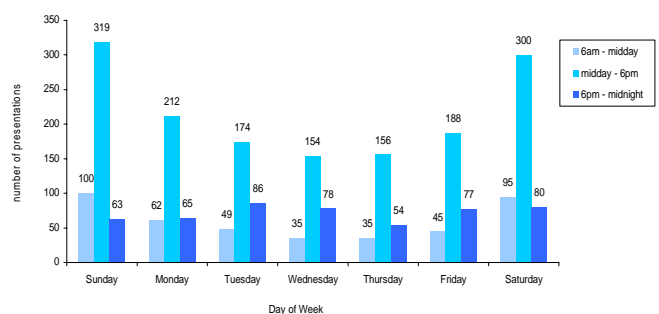
The most common month for children to present at PMH ED as a result of a bicycle related injury was October (n=278), closely followed by the summer holiday period of December (n=250) and January (n=248).

Figure 2: Bicycle Injury Presentations by Time of Injury compared to Time of Presentation, 2000/01 to 2005/06



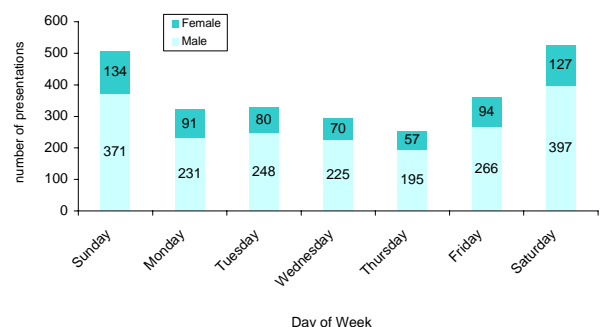
The most common time for a bicycle related injury to occur is between 4pm and 6pm, with presentations peaking during the 6pm to 8pm time period (See Figure 2). When grouped into three time periods, the most common time of day children sustain bicycle related injuries is between midday and 6pm (See Figure 3).

Figure 3: Bicycle Injury Presentations by Time of Day Injury Occurred, 2000/01 to 2005/06



The weekend (Saturday n=524 & Sunday n=505) are the most common days of the week for bicycle injuries to occur. The most common weekday for bicycle injury presentations is Friday (n=360).

Figure 4: Bicycle Injury Presentations by Day of the week, 2000/01 to 2005/06



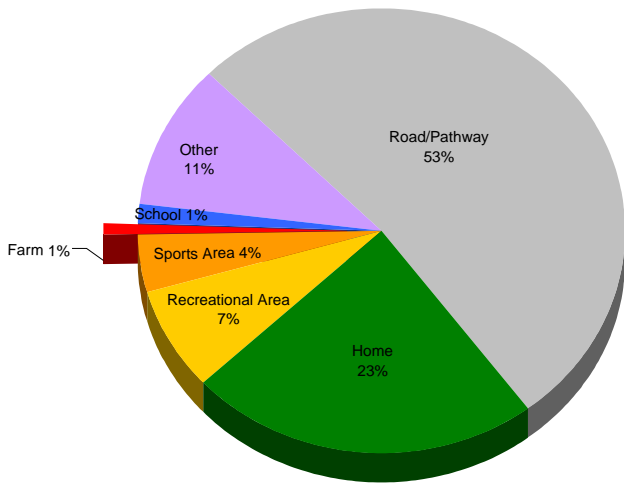
Location of Injury

The Road/Pathway (n=1,349) was the most common location for bicycle injuries to occur, followed by the Home (n=607) (See Figure 5).

The only age group where the Road/Pathway is not the most common location for bicycle injuries to occur is for children less than five years of age.

In this age group the Home (n=187; 85.8%) remains the most common location for bicycle injuries to occur, followed by Road/Pathway (n=98).

Figure 5: Bicycle Injury Presentations by Location of Injury, 2000/01 to 2005/06



Where location within the home was specified, the Driveway accounted for 19.2% of bicycle injuries that occurred in the home for children less than 5 years of age.

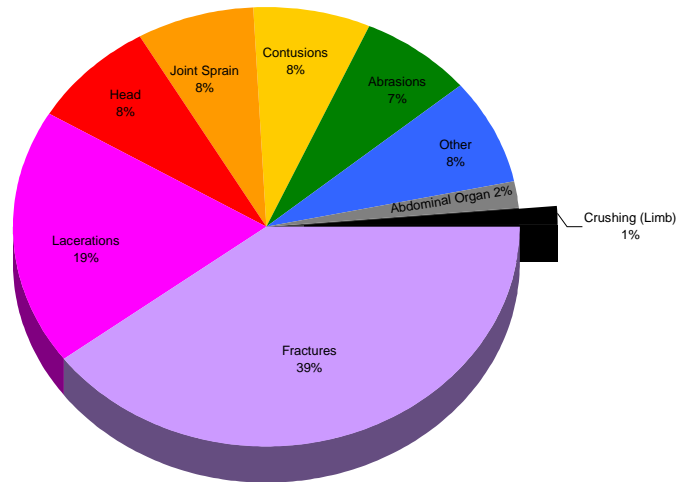
Type of Injury

The most common type of injury sustained for a bicycle related injury was fractures (n=1026; 39.6%) followed by Lacerations (n=493; 19.1%) (See Figure 6).

Of all bicycle injury presentations for fractures, the most common part of the body to sustain a fracture was the Radius/Ulna (n=398), followed by Tibia/Fibula (n=103) and Humerus (n=97).

For Lacerations from Bicycle injury presentations to PMH ED, the majority of lacerations were to the Face including eye & ear (n=210), followed by Leg/Foot (n=141), and Arm/Hand (n=54).

Figure 6: Bicycle Injury Presentations by Type of Injury, 2000/01 to 2005/06



Use of Safety Equipment

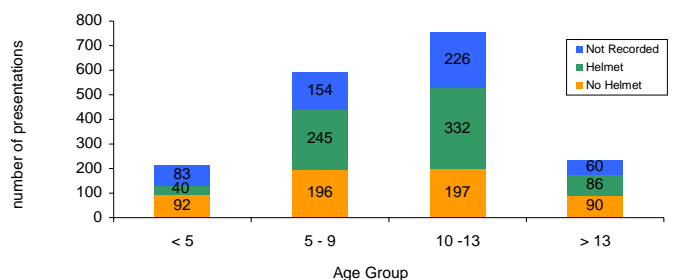
Data relating to the use of helmets by children who presented at PMH ED as a result of a bicycle related injury was recorded in 2000/01 to 2003/04, however due to coding changes in 2004 this data was not collected for the period 2004/05 to 2005/06. The use of safety equipment coding was reintroduced from July 2006.

The 10-13 year olds are the age group with the highest percentage of reported helmet use (44%) as well as the highest number of bicycle injury presentations (n=843) to PMH ED (See Figure 7).

Only 39% of the children who presented at PMH ED as a result of a bicycle injury reported wearing a helmet at the time of injury. A further 32% reported no bicycle helmet was worn, with the helmet wearing practices of 29% unknown.

This low level of reported helmet wearing is alarming considering the known protective effect of bicycle helmets and the legislative requirements for cyclists to wear a helmet that complies with AS2063.

Figure 7: Bicycle Injury Presentations by Age and helmet usage, 2000/01 to 2005/06



Prevention

Most cycling injuries don't involve another vehicle, but occur when children fall off their bike after crashing into a pole, curb or fence.

Riding the Bike

- Children should obey the rules of the road and know what each traffic sign means
- Children should never make a turn without looking behind them, Teach them to make a shoulder check before they signal and turn
- Children should avoid riding on busy streets and riding at night
- If there is traffic, a child should stop by the side of the road and wait for a gap before turning
- Children on bicycles should always give way to pedestrians
- For young cyclists, a footpath or shared path is the best place to cycle, unless a *no bicycles* sign is on display. The Road Traffic Code 2000 allows children under 12 to ride on footpaths, but remember that driveways are dangerous
- Help children understand when it is safe to cross the road Teach children to walk their bikes when crossing the street, crosswalk or railway crossings.



Bicycle Safety Checklist

- **Make Sure the Bike Fits:** A bike that is too big or small is a safety hazard. How to check - have your child sit on his/her bike, at least the toes should touch the ground on both sides.
- **Do Equipment spot checks:** Parents should ensure their child's bicycle is equipped with safety devices such as lights (AS3562), reflectors (AS2142), and a bell or horn.

- **Be a role model:** Set a good example when cycling with your children and wear a helmet too.
- **Make bikes safer:** Buy safe bicycles, with spoke & chain guards, ensure a bike lamp is used at dusk or at night, and fit safety devices to bicycles such as reflectors and safety flags.

Tips for Safe Kids

- **Ensure Supervised Riding:** Children under age ten should cycle with responsible adults. Most children in that age group do not have the skills to cycle safely without supervision and on the road.
- **Learn the rules of the road:** Make sure children are taught the rules of the road for safe cycling practices before they are allowed to ride by themselves.
- **Know the dangers of the driveway:** Children should know the driveway is dangerous and can pose a safety risk. They should always stop before entering the road, scan by looking in all directions, listen and think about if it is safe to cross the road.
- **Wear a helmet:** Current WA legislation states that everyone must wear an approved cycling helmet that meets Australian Standards (AS2063) and fits the child's head correctly at all times when cycling. Parents should set a good example by wearing bike helmets.



For further information on Bicycle Safety and the child's stage of development download the individual Fact Sheets at: www.kidsafewa.com.au

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The WA Childhood Injury Surveillance Bulletins are developed by Kidsafe WA in consultation with the Princess Margaret Hospital Emergency Department Injury Surveillance Officer; Department of Health (Clinical Network Development Team - Injury).

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