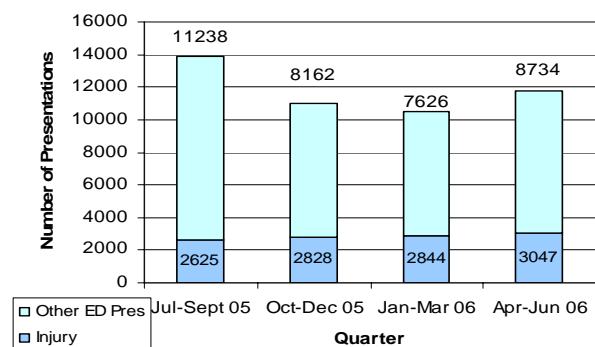


## Factors associated with child injuries: A snapshot on Injury Factors

### Childhood Injury Presentations: April to June 2006

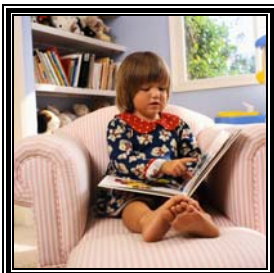
- There were a total of 11,781 presentations for all causes to Princess Margaret Hospital Emergency Department (PMH ED) from April to June 2006 (See graph below).
- Injury presentations accounted for 26% (n=3,047) of all PMH ED presentations in the quarter.
- The leading cause of injury presentations to PMH ED from April to June remained Falls (44.4%, n=1,353).
- Indigenous children accounted for 5.3% of all injury presentations in the quarter.
- 94.7% of all injury presentations were Unintentional. Intentional/ self harm & assault injuries (2%) were more prominent in the older age groups. A further 3.2% of injury presentation were of unknown intent.
- The home remains the most common location for injuries to occur (58.7%), followed by the school/sports area (14.3%).
- In the financial year 2005-06, there were a total of 11,344 injury presentations at PMH ED representing an increase of 8.1% in injury presentations from the previous financial year.

Total PMH ED Presentations July to June 2005-06



### Introduction - Injury Factors

- This report aims to look at the factors that are associated with injuries presenting at PMH ED for the 2005-06 financial year.
- Nearly half of all injury presentations to PMH ED did not have an associated injury factor recorded.
- Injury Factors include items such as Nursery Equipment, Furniture, and Play Equipment that may be associated with an injury occurring to a child.
- The most common individual injury factors reported in PMH ED injury presentations occurring for April to June 2006 are the Floor (n=202), Sports Ball (n=139) & Playground Equipment (n=110).



Furniture/Furnishings



Infant/Child Products



Building Component



Sport Equipment



Pharmaceutical

- For the purpose of this report the Injury Factors have been grouped into Five Categories: Furniture/Furnishings, Infant/Child Products, Sports/Recreational Equipment, Building Component, and Pharmaceutical Substances.

## Results

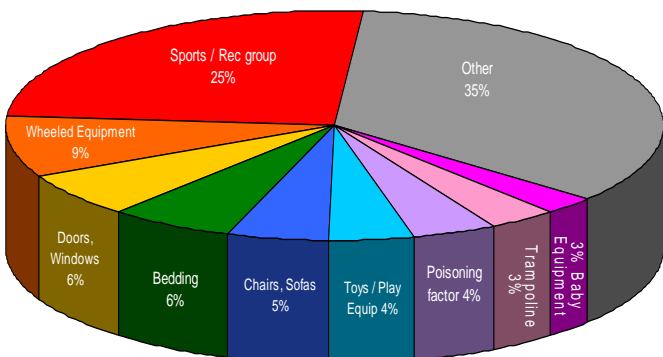
During the 2005-06 financial year there were 11,351 presentations to PMH ED as a result of injury. Just 50.5% of these injury presentations (n=5,731) were given an Injury Factor code to assist in identifying any factors associated with the injury event (See Figure 1).

These factors are recorded to assist in identifying how children are injured and thus make appropriate recommendations for injury prevention programs.

There are a total of 35 Injury Factor codes. For the purpose of this report the Injury Factors have been grouped into Five Categories:

- Furniture/Furnishings  
*Bedding, Bunk Bed, Chair, Sofa, Mattress, Other Bed, Table, Cupboard, Partition, Other Furniture/Furnishing*
- Infant/Child Products  
*Baby Barrier/play pen, Baby Bath/Bath Seat, Baby Carrier, Baby Change Table, Baby Exerciser, Bouncinette, Baby Walker, Child Car Restraint, Cot/Cot Mattress, High Chair, Pram, Other Baby/Child Product, Toy/Play Equipment*
- Sports/Recreational Equipment  
*Sports Ball, Sports Structure, Wheeled Equipment, Playground Equipment, Hand Held Equipment, Trampoline, Other Sports/Recreational Equipment*
- Building Component  
*Door, Window, Fitting, Floor, Other Building Component, Wall*
- Pharmaceutical Substances  
*Non-Pharmaceutical Substances, Pharmaceutical Substances,*

Figure 1: Injury Factors, 2005-06

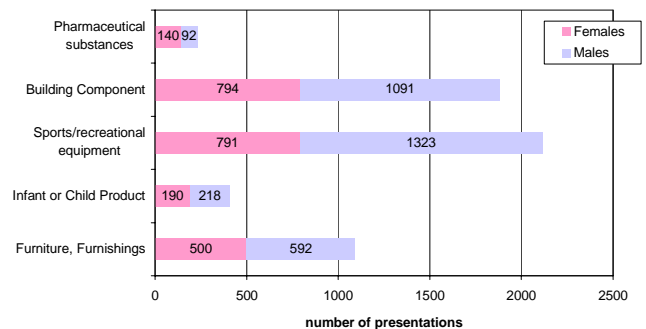


The following summary of data has been broken down to look at Injury Factors in relation to gender, age, location, disposition and cause of injury.

## Injury Factor by Gender and Age

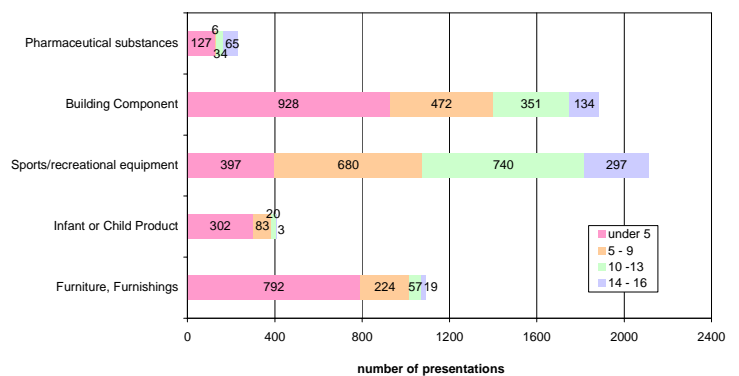
There were less female (n=2,415) presentations than male (n=3,316) coded with an Injury Factor.

Figure 2: Injury Factors by Gender, 2005-06



Overall the Floor was the most common individual injury factor recorded for both Males (n=508) and Females (n=411). The most common injury factor recorded for Males was Sports/Recreational Equipment (39.8%), while Building Component (32.8%) was the most common injury factor recorded for Females (See Figure 2).

Figure 3: Injury Factors by Age Group, 2005-06



The most common injury factor reported for children under 5 years of age was Building component (n=928), while Sports/recreation equipment was the most common injury factor for children in all other age groups (See Figure 3).

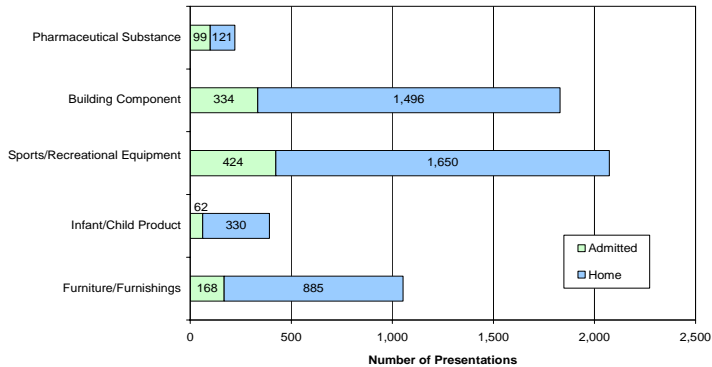
Children aged less than 5 years were the most common age group to sustain injuries as a result of Infant or child products accounting for 74% (n=302) of injuries linked to this factor.

They were also the age group most commonly injured as a result of Furniture/Furnishings (72.5%), Building Component (49.2%) and Pharmaceutical Substances (54.7%). Children aged 10-13 years were the most common age group to sustain injuries as a result of sport/recreational equipment (35%).

### Injury Factor by Disposition

More than 78% of child injury presentations with a recorded injury factor resulted in the child being treated and then discharged. The two most common injury factors that required the child to be admitted to hospital were Sports/Recreational Equipment (n=424) and Building Component (n=334). (See Figure 4)

**Figure 4: Injury Factors by Disposition, 2005-06**



### Injury Factor by Location

Although the most common location for all children to be injured is in the home, the percentage of injuries occurring in this location decreases as the child gets older and starts to spend more time away from the home.



The home represents 83.5% of injuries occurring to children less than 5 years of age, followed by Public Building/Cultural area (4.4%), and then School/Educational Area (3.6%).

The percentage of injuries occurring in the home decreases to 57.6% for children aged 5-9 years and increases in the School/Educational area (15.6%), and Public Building/Cultural area (7.8%).

The school maintains second position after the home (36.8%) for children aged 10 to 13 years accounting for 20% of injury presentations. The Sports/Athletics area (17.9%) now shows up as the 3<sup>rd</sup> most common location for injuries to occur.

30.3% of injury presentations with an injury factor for children aged 14-16 years occurs in the home, 24.9% in the Sports/Athletics area, and 18.7% in the School/educational area.

### Injury Factor by Injury Cause

When removing "Other Cause" from injury case data to identify the most common causes of injury by injury factors for each age group, Falls continue to dominate as the most common cause of injury across all age groups, accounting for more than half of all injury presentations (55.5%) with an injury factor code.

**Table 1: Top Five causes of injury by Injury Factor, under 5 years**

Under 5's	Falls Combined	Blunt Force	Cutting / Piercing	Burns / Scalds	Poisonings
Furniture, Furnishings	602	132	29	11	0
Infant or Child Product	203	38	10	3	0
Sports/recreational equipment	213	68	10	7	0
Building Component	620	213	69	26	0
Pharmaceutical substances	0	0	0	0	125
	<b>1638</b>	<b>451</b>	<b>118</b>	<b>47</b>	<b>125</b>

Building components (n=928) were the most common injury factor involved in injury presentations for all causes of injury in children less than 5 years of age, followed by furniture/furnishings (n=774) (See Table 1).

Not surprisingly this is the age group that also shows the most injury presentations as a result of infant or child product injury factors. Prams (n=46), Change Tables (n=32), and Cot/Cot Mattresses (n=26) were the most common Infant/Child product injury factor involved in injury presentations for this age group.

**Table 2: Top Five causes of injury by Injury Factor, 5-9 years**

5 to 9 year olds	Falls Combined	Blunt Force	Cutting / Piercing	Other Transport	Bicycle Related
Furniture, Furnishings	139	57	14	0	0
Infant or Child Product	58	14	5	1	0
Sports/recreational equipment	375	129	16	56	31
Building Component	278	150	61	1	3
Pharmaceutical substances	0	0	1	0	0
	<b>850</b>	<b>350</b>	<b>97</b>	<b>58</b>	<b>34</b>

Sports/recreational equipment were the most common injury factor involved in Fall injury presentations (n=375) for children 5-9 years of age, and Bicycle related (n=31), and other transport injuries (n=56). Building components were the most common injury factor involved in presentations for Blunt force (n=150) and Cutting/piercing injuries. (See Table 2).

The top five causes of injury presentations for children aged 10-13 years is similar to children aged 5-9 years (See Table 3).

However Sport/Recreational equipment was the most common injury factor involved in all of the top five injury causes except cutting/piercing injuries (n=32) which was most commonly as a result of a building component.

**Table 3: Top Five causes of injury by Injury Factor, 10-13 years**

10 to 13 year olds	Falls Combined	Blunt Force	Cutting / Piercing	Other Transport	Bicycle Related
Furniture, Furnishings	26	23	4	0	0
Infant or Child Product	9	7	1	0	0
Sports/recreational equipment	261	221	16	134	42
Building Component	224	103	32	1	3
Pharmaceutical substances	0	0	0	1	0
	520	354	53	136	45

The top five injury causes by injury factor for children aged 14-16 reintroduces Poisoning (See Table 4). With 98.5% of these cases being as a result of intentional self harm rather than unintentional poisoning as seen in the under 5 year age group. Otherwise the injury factor most commonly involved in the top five causes of injury remains as Sports/ recreational equipment for this age group.

**Table 4: Top Five causes of injury by Injury Factor, 14-16 years**

14 to 16 year olds	Falls Combined	Blunt Force	Cutting / Piercing	Other Transport	Poisoning
Furniture, Furnishings	4	9	3	0	0
Infant or Child Product	1	2	0	0	0
Sports/recreational equipment	90	105	4	39	0
Building Component	82	45	15	2	0
Pharmaceutical substances	0	0	0	0	65
	177	161	22	41	65

## Discussion

Injury factors are recorded to assist in identifying how children are injured and thus guide the development of evidence based injury prevention programs.

At this stage an Injury Factor is not recorded for every presentation to Princess Margaret Hospital Emergency Department, 49.5% of injuries either not fitting into the current coding options or not coded at all. Further training on the usefulness of this data to injury prevention professionals is required to encourage greater use of injury factor coding.

Whilst demonstrating the home and sporting fields to be the common locations for childhood injury, injury factors are able to clearly display the change in injury pattern between age groupings. The injury factor data divided by age clearly indicates the importance of making injury prevention campaigns age specific.

Injury factors also allow practitioners to look at the more severe factors involved with each injury cause for example a fall whilst tripping over flooring or falling from a chair or table often results in a limb fracture. The more serious injuries are linked to being struck/crushed by a falling cupboard or television.


## Suggested Citation:

Leeds, M & Wicks, S. 2006. Factors associated with child injuries: a snapshot on injury factors. Kidsafe WA (No.7).

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

For further information please contact:  
Kidsafe WA

 GPO Box D184, PERTH WA 6840

 (08) 9340 8509

 [kidsafe@kidsafewa.com.au](mailto:kidsafe@kidsafewa.com.au)



Department of Health  
Government of Western Australia

