

# CHIRPP INJURY BRIEF

Canadian Hospitals Injury Reporting and Prevention Program



## Injuries associated with *Matches* 1993-2003, Ages 15 years of age and under

### SOURCE OF THE STATISTICS

Injury data were obtained from the database of the Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP). CHIRPP is an injury surveillance system operating in the emergency departments of 10 pediatric and 4 general hospitals in Canada. Data collection began in April 1990 at the pediatric hospitals and between 1991 and 1995 in the general hospitals. CHIRPP is a program of the Injury and Child Maltreatment Section of the Health Surveillance and Epidemiology Division, Public Health Agency of Canada.

Briefs and reports are updated when there is reason to believe the injuries or circumstances surrounding the injuries have changed. For example, the report of injuries associated with a specific product would be updated if the manufacturing regulations for the product are changed to include a new safety element. There is no need to update reports on a regular basis because the data collection sites are not a representative sample of all Canadian hospitals. Frequent updates would simply increase the number of records included in the report but not necessarily result in any change in the patterns and distributions found.

### LIMITATIONS

It is important to note that the injuries described do not represent all injuries in Canada, but only those seen at the emergency departments of the 15 hospitals in the CHIRPP network. Since most of the data comes from the pediatric hospitals, which are in major cities, injuries suffered by the following people are under-represented in the CHIRPP database: older teenagers and adults, who are seen at general hospitals; native people; and people who live in rural areas. Fatal injuries are also under-represented in the CHIRPP database because the emergency department data do not capture people who died before they could be taken to hospital or those who died after being admitted.

### INCLUSION AND EXCLUSION CRITERIA

An August 2006 search of the CHIRPP database for injuries related to the use of matches was conducted (ages 15 years and under; 438,124 records total). Cases were retained if the injury occurred while the patient or another individual were using matches, between 1993 and 2003.

### RECOMMENDED CITATION

Injury briefs and reports and data from them may be copied and circulated freely provided that the source is acknowledged. The following citation is recommended:

Health Surveillance and Epidemiology Division (Public Health Agency of Canada). *Injuries associated with matches*, Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP) database, 1993-2003, Ages 16 years and under, 39 records.

### FOR MORE INFORMATION

Please contact the Injury and Child Maltreatment Section, Health Surveillance and Epidemiology Division, by PHONE at (613) 957-4689, by FAX at (613) 941-9927 or visit our website at <http://www.phac-aspc.gc.ca/inj-bles/>



## Age and Sex Distribution

Table 1 shows the age and sex distribution for injuries associated with matches. As a proportion of all same-aged patients, children between the ages of 13 and 15 years were injured more frequently, with male predominance in all age ranges.

**Table 1.** Age and sex distribution, injuries associated with matches, ages 15 years and under, 1993-2003, CHIRPP.

Age Group	# cases (%)	#/100,000 CHIRPP <sup>1</sup>	% male	% male CHIRPP <sup>2</sup>
1 year and under	4 (10.3)	6.7	100.0	54.8
2-4 years	3 (7.7)	3.3	66.7	57.3
5-9 years	10 (25.6)	8.6	100.0	58.4
10-12 years	7 (17.9)	8.0	85.7	60.3
13-14 years	10 (25.6)	17.0	90.0	64.7
15 years	5 (12.8)	20.0	80.0	64.6
<b>Total</b>	<b>39 (100.0)</b>	<b>8.9</b>	<b>89.7</b>	<b>59.5</b>

<sup>1</sup> Because CHIRPP collects information from ten children's hospitals and only four of the general hospitals, there is a high number of young children in the database. Using cases per 100,000 within an age group (instead of percentage by age group) adjusts for this uneven distribution.

<sup>2</sup> The proportion of males in the entire CHIRPP database for the given age group.

## Circumstances

Table 2 details the circumstances of the injury. Overall, 64% of cases involved playing with matches in some way; 36% of the cases involved playing with matches in combination with some type of flammable substance, such as gasoline. Of the cases where patient ingested matches, all were under the age of 4 years. In the 4 cases where patient was trying to create a projectile or explosive device, all cases were over the age of 13 years. Of the 39 cases, 24 (61.5%) occurred at a residential location.

**Table 2.** Circumstances of injuries associated with matches, ages 15 years and under, 1993-2003, CHIRPP.

Circumstance	# cases (%)
Playing with matches in combination with flammable material (e.g. gasoline)	14 (35.9)
Playing with matches, not further specified (NFS)	7 (17.9)
Playing with matches, lit clothes on fire	4 (10.3)
Trying to create a projectile, explosive device, detonate with matches	4 (10.3)
Spark/ember	4 (10.3)
Ingested matches	3 (7.7)
Other	3 (7.6)
<b>Total</b>	<b>39 (100.0)</b>

## Injuries

Table 3 details the injury by body part. Overall 77% of injuries associated with matches were burns, mainly to the lower extremity (30.8%).

**Table 3.** Nature of injury by body part, injuries associated with matches, ages 15 years and under, 1993-2003, CHIRPP.

Body Part nature of injury	# cases (%)
<b>Face, head and neck</b>	<b>15 (38.5)</b>
burn	10
eye injury	5
<b>Lower extremity</b>	<b>12 (30.8)</b>
burn	12
<b>Upper extremity</b>	<b>7 (17.9)</b>
burn	6
fracture <sup>1</sup>	1
<b>Trunk</b>	<b>3 (7.7)</b>
burn	2
foreign body	1
<b>Systemic injury</b>	<b>2 (5.1)</b>
poisoning	2
<b>Total</b>	<b>39 (100.0)</b>

<sup>1</sup> Fracture occurred when explosive device constructed by patient exploded.

## Treatment in Emergency Department

Table 4 shows the treatment received in the emergency department; 64.1% required some type of treatment and an additional 25.6% were admitted to hospital. Of the patients admitted, 90% were due to burn injuries.

**Table 4.** Treatment in emergency department, injuries associated with matches, ages 15 years and under, 1993-2003, CHIRPP.

Disposition	# cases (%)	% cases CHIRPP <sup>1</sup>
Left without being seen	0 (0.0)	1.4
Advice only	4 (10.3)	19.7
Treated, medical follow-up if necessary	6 (15.4)	38.7
Treated, medical follow-up required	19 (48.7)	33.0
Short stay, observed in ED	0 (0.0)	2.0
Admitted to hospital	10 (25.6)	5.1
Fatal	0 (0.0)	0.02
<b>Total</b>	<b>39 (100.0)</b>	<b>100.0</b>

<sup>1</sup> The proportion of cases in the entire CHIRPP database for the given disposition, over the same time period.