

CHIRPP INJURY BRIEF

Canadian Hospitals Injury Reporting and Prevention Program



Injuries associated with ... SLEDDING, Winter 2001-2002

SOURCE OF THE STATISTICS

Injury data were obtained from the database of the Canadian Hospitals Injury Reporting and Prevention Program. CHIRPP is an injury surveillance system operating in the emergency departments of 10 pediatric and 5 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, Center for Health Promotion, 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 14 hospitals in the CHIRPP network. Since the bulk 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

A search of the CHIRPP database for injuries occurring between November 1, 2001 and April 30, 2002 was conducted (ages 1 year and older; 55,787 records). Records were selected if *i*) any of the six factor code fields contained the code for sledding, tobogganing, snow disking and snow tubing (code 1171), or *ii*) if the Injury Event Description contained any of the following strings: "GT RACER", "GTRACER", "G.T. RACER", "G.T.RACER", "GT SNOW", "GTSNOW", "G.T. SNOW", "G.T.SNOW", "TRAINEAU", "TRAINE SAUVAGE", "GLISS", "TRAIN SAUVAGE", "TOBOG", "SLED", "SNOW DISK", "SNOW DISK", "CRAZY CARPET", "MAGIC CARPET", "FLYING CARPET" or "SLEIGH". Records were reviewed individually and irrelevant records were deleted.

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 Sledding: Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP) database, Winter 2001-2002, ages 1 year and older, July 2003, 1,027 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/injury-bles/>

Overview

In total 1,027 cases were identified, which represents 1.8% of all CHIRPP records over the same time frame, ages 1 year and older.

Age and Sex

Table 1 details the age and sex distribution. As a proportion of all same-aged cases, 5-9 year-olds were most frequent at 3,897 cases per 100,000 CHIRPP records.

Table 1. Age and sex distribution of sledding-related injuries, CHIRPP, Winter 2001-2002

Age group (years)	# cases (%)	Number/100,000 CHIRPP cases ¹	% male	% male CHIRPP ²
1-4	92 (9.0)	757.6	57.6	57.0
5-9	407 (39.6)	3,897.0	55.8	58.2
10-14	421 (41.0)	2,670.6	59.9	61.0
15-19	64 (6.2)	783.7	60.9	62.5
20+	43 (4.2)	464.0	48.8	57.7
Total	1,027 (100.0)	1,840.9	57.6	59.3

¹ The number of injuries per 100,000 CHIRPP injuries of all types within the age group indicated, over the same time period. Because CHIRPP collects information from ten children's hospitals and only five of the general hospitals, there is a high number of young children in the database. Using number per 100,000 within an age group (instead of overall percent by age group) adjusts for different age group distributions.

² Proportion of males in the CHIRPP database for that age group, over the same time period.

Location

Table 2 shows the distribution of locations where the sledding incidents occurred. Of the cases where the location was known (n=712), over one-third (34.4%) occurred at a public park.

Table 2. Location of sledding-related injuries, CHIRPP, Winter 2001-2002, ages 1 year and older

Location	# cases (%)
Public park	245 (23.9)
Designated hill	197 (19.2)
Residential area	140 (13.6)
School	90 (8.8)
Other	40 (3.9)
Unknown	315 (30.7)
Total	1,027 (100.0)

Time of day, day of the week

Table 3 shows the distribution of sledding-related injuries by time of day. Just over one-third of the incidents occurred between noon and 3:59 pm and the peak hour was 4:00-4:59 pm (13.6%). Table 4 details the pattern by day of the week. Over half (55.3%) of the cases occurred on Friday-Saturday-Sunday.

Table 3. Sledding-related injuries, hour of the day, CHIRPP, Winter 2001-2002, ages 1 year and older

Time of Day	# cases (%)
Midnight - 7:59 am	67 (6.5)
8:00 am - 11:59 am	81 (7.9)
Noon - 3:59 pm	381 (37.1)
4:00 pm - 7:59 pm	299 (29.1)
8:00 pm - 11:59 pm	75 (7.3)
Unknown	124 (12.1)
Total	1,027 (100.0)

Table 4. Sledding-related injuries, day of the week, CHIRPP, Winter 2001-2002, ages 1 year and older

Day of the week	# cases (%)
Monday	110 (10.7)
Tuesday	123 (12.0)
Wednesday	115 (11.2)
Thursday	111 (10.8)
Friday	145 (14.1)
Saturday	208 (20.3)
Sunday	215 (20.9)
Total	1,027 (100.0)

Direct cause of the injury

Table 5 details the direct cause of the injury. Over half of the injuries were caused by the ground when the patient lost control.

Table 5. Direct cause of sledding-related injuries, CHIRPP, Winter 2001-2002, ages 1 year and older

Direct cause	# cases (%)
Ground (ice, snow, etc.)	558 (54.3)
The sled	98 (9.5)
Tree	96 (9.4)
Fixed structure ¹	74 (7.2)
Other person	59 (5.7)
The patient ²	29 (2.8)
Vehicle (on- and off road)	15 (1.5)
Other	76 (7.4)
Unknown	22 (2.1)
Total	1,027 (100.0)

¹ Other than a tree (e.g. fence, shed)

² Includes cases where the patient struck themselves (e.g. kneed themselves in the head) or cases of over-exertion

Injuries

Table 6 details the injuries sustained. CHIRPP allows the recording of up to three injuries, Table 6 details only the first, most serious, injury. About 8% of patients suffered two injuries and 2.3% experienced three injuries. Closed head injuries accounted for 11.7% of all injuries (compared to 8.5% for CHIRPP overall).

Table 6. Body region and nature of injury of sledding-related injuries, CHIRPP, Winter 2001-2002, ages 1 year and older

Body Region Nature of Injury	# (%) of cases
Upper extremities	332 (32.3)
Fracture	224
Bruise / abrasion/soft tissue	54
Sprain / Strain	37
Other upper extremity injury	17
Head, Face, and Neck	306 (29.8)
Cut/Laceration	79
Minor Head Injury	73
Bruise / Abrasion	52
Concussion	42
Dental Injury	8
Facial fracture	8
Intracranial	5
Skull fracture	4
Other head, face, neck injury	35
Lower extremities	287 (28.0)
Fracture	146
Bruise /abrasion/soft tissue	77
Sprain/Strain	48
Cut / Laceration	10
Other lower extremity injury	6
Trunk (including Spine)	83 (8.1)
Bruise / abrasion/soft tissue-back or thorax	49
Spinal fracture	9
Injury to internal organ	5
Other trunk injury	20
Other and unknown	19 (1.8)
Total	1,027 (100.0)

Treatment

Table 7 shows the treatment received in the emergency department. About one in ten (10.5%) of the patients were admitted to hospital (compared to 6.4% for CHIRPP overall).

Table 7. Sledding-related injuries, treatment in emergency, CHIRPP, Winter 2001-2002, ages 1 year and older

Disposition	# cases (%)
Left without being seen	14 (1.4)
Advice only	137 (13.3)
Treated, medical follow-up if necessary	351 (34.2)
Treated, medical follow-up required	399 (38.9)
Held for observation	18 (1.8)
Admitted to hospital	108 (10.5)
Total	1,027 (100.0)