

CHIRPP INJURY BRIEF

Canadian Hospitals Injury Reporting and Prevention Program



Pool, wading pool and hot tub-related body part entrapments

1990-2003, all ages

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 14 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

A Sept. 2005 search of the CHIRPP database (all ages, 1,479,302 records total, spanning 1990-2003) for cases of body part entrapment in pools, wading pools and hot tubs/Jaccuzzi's/whirlpools was conducted. Specifically, the search filter was as follows: CHIRPP factor codes 491, 492 and 741; breakdown code for "body part or clothing caught in, snagged by something" (Code 36), and the text strings: 'CAUGHT', 'ATTRAPE', 'PRISE', 'COINCE', 'GRATE', 'DRAIN', 'PUMP'. Cases were then reviewed individually to remove irrelevant cases. The search identified a total of 35 records.

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). *Pool, wading pool and hot tub-related body part entrapments: Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP) database, 1990-2003 (cumulative to Sept. 2005), All ages, 35 records.*

FOR MORE INFORMATION

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<http://www.phac-aspc.gc.ca/inj-bles/>



Overall Pattern

Of the 35 cases, 29 happened in a pool (in- or above- ground), 4 in a hot tub and 2 in wading pools. This represents 0.54%, 2.2% and 0.67% of all pool, hot tub and wading pool-related injuries, respectively.

Age and sex distribution

Table 1 provides details of the age and sex distribution. Youth 10-14 years-old were most frequent at 4.86 cases per 100,000 CHIRPP records of all types. The median age was 11.2 years, the interquartile range (25th and 75th percentiles) was 8.8 to 12.6 years, and the range was 3-16 years. There was a preponderance of females (69%).

Table 1. Age and sex distribution of pool, wading pool and hot tub-related body part entrapments, CHIRPP database as of Sept. 2005 (1990-2003), ages 3-16 years

Age (years)	# cases (%)	#/100,000 CHIRPP ¹	% male	% male CHIRPP ²
3-4	2 (5.7)	1.36	50.0	58.3
5-9	12 (34.3)	3.91	25.0	58.6
10-14	18 (51.4)	4.86	33.3	61.2
15-16	3 (8.6)	2.88	33.3	63.3
Total	35 (100.0)	3.77	31.4	60.1

¹ 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 cases per 100,000 within an age group (instead of percentage by age group) adjusts for this uneven distribution.

² The proportion of males in the entire CHIRPP database for the given age group.

Body part caught

Table 2 shows the body parts caught and the component of the pool/hot tub involved . Fourteen (40%) of the 35 cases involved the grate or drain and 57% involved the foot.

Table 2. Body part caught by part of the pool involved; pool, wading pool and hot tub-related body part entrapments, CHIRPP database as of Sept. 2005 (1990-2003), ages 3-16 years

Body Part	Component of pool or hot tub involved in the entrapment Number of cases			
	Grate, Drain	Jet, Suction	Ladder	Edge, rim
Foot, Toe	9	0	6	5
Hand, Finger	4	2	1	1
Lower leg	1	0	2	0
Head	0	0	1	0
Hair	0	1	0	0
Genitals	0	0	0	1
Not Specified	0	0	1	0
Total	14	3	11	7

Nature of Injury

Table 3 shows the distribution of the natures of injury. Lacerations were most frequent (34.3%). There were 3 drowning/near drowning cases.

Table 3. Natures of injury; pool, wading pool and hot tub-related body part entrapments, CHIRPP database as of Sept. 2005 (1990-2003), ages 3-16 years

Nature of Injury	Number of cases (%)
Laceration	12 (34.3)
Bruise, abrasion	8 (22.9)
Fracture	5 (14.3)
Drown/near drown	3 (8.6)
Sprain/strain	2 (5.7)
Soft tissue	2 (5.7)
Musculotendinous	1 (2.9)
Crushing injury	1 (2.9)
No injury detected	1 (2.9)
Total	35 (100.0)

Treatment in Emergency

Eight patients (22.9%) required medical follow-up and 2 (5.7%) were admitted to hospital.