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PUBLIC HEALTH AGENCY of CANADA

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PLAYGROUND EQUIPMENT

CHIRPP INJURY REPORTS

Canadian Hospitals Injury Reporting and Prevention Program

Injuries associated with... PLAYGROUND EQUIPMENT

CHIRPP database, summary data for 1996, patients under 20 years of age

SUMMARY (4,261 records)

Injuries associated with playground equipment were sustained most frequently by 5-9 year olds (54.0%), followed by 2-4 year olds (26.2%). Of all injuries related to playground equipment, 55.5% were to males. Injuries occurred more often in the months of May, 14.5%, and June, 17.6%; and most frequently between noon and 4 p.m. (33.4%) and between 4 and 8 p.m. (30.3%). Most injuries occurred at a public park, 37.2% or at school, 34.8%. The type of playground equipment which accounted for most injuries were slides, 22.1%; monkey bars, 20.9% and swings, 19.5%. The majority of injuries occurred when the patient fell off of the playground equipment, 64.9%. Injuries requiring advice only or minor treatment accounted for 47.0% of patients, 42.8% had more serious injuries with medical follow up required, and 9.4% were admitted to hospital. The most frequent types of injuries overall were fractures, 38.9%, and the body part most often affected was the forearm, 20.0%.

SPECIFICATIONS OF THE SEARCH

An April 1997 search of the entire CHIRPP database (646,335 records) was conducted. Age was restricted to those under 20 years. Records were selected i) if the injury occurred in 1996; and ii) if any of the mechanism, breakdown or contributing factors were playground equipment (codes 601-610). A separate search was conducted on text strings of names of specific playground equipment, for example, JUNGLE, MONKEY, STRUCTURE, SEE SAW, SWING, BALANCOIR, GLISSOIR, etc. Records were included if the injury occurred in parks, playgrounds, home backyards, school yards, restaurant play areas or indoor playground facilities. Records were eliminated if the activity occurred inside the home (unless it was a home daycare); if the injury was incidental to playground equipment, e.g., the victim was bitten by a dog while playing on playground equipment; or if the injury involved treehouses, playhouses, forts, amusement park rides, shopping mall rides, waterslides, ball rooms, tree swings, backyard glider swings, and bars or ropes in gymnasiums. The total number of records identified was 4,261.

AGE AND SEX DISTRIBUTION OF INJURED PERSONS

	NUMBER	PERCENT OF INJURIES	% MALE*	PERCENT WITHIN AGE GROUP**
<= 1 year	195	4.6	55.4	1.5
2-4 years	1,116	26.2	58.8	5.6

5-9 years	2,302	54.0	54.4	9.7
10-14 years	612	14.4	54.4	2.2
15-19 years	36	0.8	47.2	0.3
Total	4,261	100.0	55.5	4.5

* Of all injuries in the CHIRPP database in 1996, 60.1% were to males.

** Percent of CHIRPP injuries of all types in 1996 within the age group indicated.

TIME AT WHICH INJURY OCCURRED

	NUMBER	PERCENT OF INJURIES
8:00 a.m. to noon	623	14.6
Noon to 4 p.m.	1,423	33.4
4 p.m. to 8 p.m.	1,289	30.3
8 p.m. to midnight	344	8.1
Midnight to 8 a.m.	9	0.2
Unknown	573	13.4
Total	4,261	100.0

DAY DURING WHICH INJURY OCCURRED

	NUMBER	PERCENT OF INJURIES
Sunday	557	13.1
Monday	616	14.5
Tuesday	601	14.1
Wednesday	624	14.6
Thursday	699	16.4
Friday	664	15.6
Saturday	500	11.7
Total	4,261	100.0

MONTH DURING WHICH INJURY OCCURRED

	NUMBER	PERCENT OF INJURIES
January	98	2.3
February	124	2.9
March	184	4.3
April	244	5.7
May	616	14.5
June	749	17.6
July	574	13.5
August	507	11.9
September	520	12.2
October	364	8.5
November	195	4.6
December	86	2.0
Total	4,261	100.0

WHERE THE INJURY OCCURRED

	NUMBER	PERCENT OF INJURIES
Public park	1,587	37.2
School	1,482	34.8
Residential yard (own home, other home)	682	16.0
Private enterprise or commercial area	117	2.7
Community centre, sports area	84	2.0
Other	53	1.2
Unknown or not specified	256	6.0
Total	4,261	100.0

TYPE OF PLAYGROUND EQUIPMENT

	NUMBER	PERCENT OF INJURIES
Slides	942	22.1
Monkey bars	892	20.9
Swings	829	19.5
Playstructures (not further specified)	510	12.0
Rings, ropes, poles, trapezes	174	4.1
See-saws	100	2.3
Bars	129	3.0
Merry-go-rounds	38	0.9
Sandboxes	28	0.7
Rocking horses	10	0.2
Unspecified	609	14.3
Total	4,261	100.0

CIRCUMSTANCES OF INJURY

Note: The following is a list of frequently occurring circumstances and factors in injuries related to playground equipment. Each patient was assigned to only one category and percentages were based on 4,261 persons injured. Category assignment was based on the level of detail available in the description of the injury.

	NUMBER	PERCENT OF INJURIES
Fell off equipment	2,764	64.9
Hit against equipment	387	9.1
Jumped off equipment	209	4.9
Hit, pushed, pulled by other person	251	5.9
Hit by equipment	147	3.4
Bad landing	125	2.9
Caught	89	2.1
Strained, twisted	70	1.6
Ran into equipment	58	1.4
Cut while using equipment	47	1.1
Equipment broke, defective	41	1.0
Hit by foreign object (e.g., rock, sand)	31	0.7
Equipment-specific circumstance*	24	0.6
Equipment tipped over	6	0.1
Other	12	0.3
Total	4,261	100.0

* Equipment-specific circumstance includes: swings - pushed too high by other person; merry-go-rounds - pushed too fast; see-saws - sudden drop. Further details available in specific equipment report.

NATURE OF INJURY AND BODY PART INJURED

	NUMBER	PERCENT OF INJURIES
Fracture	1,781	38.9
Forearm	828	
Elbow	284	
Upper arm	175	
Lower leg	113	
Shoulder	108	
Foot	93	
Wrist	74	
Hand, finger	43	
Upper leg	27	
Head, neck	24	
Trunk	12	
Bruise, abrasion, inflammation	1,118	24.4
Head, neck	426	
Spine, back	126	
Foot, toe	120	
Trunk	100	
Upper leg	62	
Elbow	59	
Forearm	55	
Lower leg	47	
Hand, finger	42	
Wrist	38	
Shoulder	25	
Upper arm	18	
Cut, laceration	693	15.2
Head, neck	591	
Upper extremity	44	
Lower extremity	30	
Trunk	28	
Minor head injury	361	7.9
Sprain, strain	353	7.7
Foot, toe	138	
Forearm, elbow	43	
Hand, wrist	39	
Upper or lower leg	34	
Trunk	31	
Finger, thumb	28	
Head, neck	21	
Shoulder, upper arm	19	
Dislocation	70	1.5
Elbow	57	
Forearm	6	
Shoulder	4	
Finger	1	
Hip	1	
Foot	1	
Dental injury	63	1.4
Concussion	59	1.3
Eye injury	27	0.6

Amputation	4	0.09
Multiple body parts	2	0.04
Other injury	43	1.0
No injury detected	(12)	0.3
Total	4,574	100.0

* Up to three injuries may be specified for each record. 406 patients (9.5%) sustained more than one injury.

TREATMENT PROVIDED IN THE EMERGENCY DEPARTMENT

	NUMBER	PERCENT OF INJURIES
Left without being seen	36	0.8
Advice only, or treatment with no need for follow up	1,999	47.0
Treated, medical follow up required	1,825	42.8
Admitted to hospital	401	9.4*
Fatal injury	**0	0.0
Total	4,261	100

* The percentage of all CHIRPP injuries in 1996 that resulted in hospital admission was 5.8%.

** Fatalities counted by CHIRPP include only those patients who were dead on arrival at the emergency department or who died in the emergency department. They do not include people who died before they could be taken to hospital or those who died after hospital admission. Only 0.03% of all CHIRPP injuries were fatal during 1996.

PROFILE OF HOSPITALIZED PATIENTS

AGE DISTRIBUTION OF PERSONS ADMITTED TO HOSPITAL

	NUMBER	PERCENT OF INJURIES
<= 1 year	8	2.0
2-4 years	95	23.7
5-9 years	260	64.8
10-14 years	35	8.7
15-19 years	3	0.8
Total	401	100.0

TYPE OF PLAYGROUND EQUIPMENT USED BY PATIENTS ADMITTED TO HOSPITAL

	NUMBER	PERCENT OF INJURIES
Monkey bars	125	31.2
Slides	84	20.9
Swings	60	15.0
Playstructures (not further specified)	31	7.7
Rings, ropes, poles, trapezes	18	4.5
Bars	11	2.7
See-saws	6	1.5
Merry-go-rounds	1	0.2
Rocking horses	1	0.2
Unspecified	64	16.0
Total	401	100.0

CIRCUMSTANCES OF INJURY AMONG PATIENTS ADMITTED TO HOSPITAL

	NUMBER	PERCENT OF INJURIES
Fell off equipment	335	83.5
Hit, pushed, pulled by other person	22	5.5
Jumped off equipment	14	3.5
Hit against equipment	8	2.0
Bad landing	6	1.5
Caught	4	1.0
Hit by equipment	3	0.7
Equipment tipped over	2	0.5
Cut while using equipment	1	0.3
Equipment broke, defective	1	0.3
Equipment-specific circumstance*	1	0.3
Ran into equipment	1	0.3
Other	3	0.7
Total	401	100.0

* Equipment-specific circumstance in this case is 'sudden drop' - see-saw

NATURE OF INJURY AND BODY PART INJURED AMONG PATIENTS**ADMITTED TO HOSPITAL**

	NUMBER	PERCENT OF INJURIES
Fracture	336	83.8
Forearm	122	
Elbow	120	
Upper arm	49	
Upper leg	22	
Lower leg, foot	10	
Wrist	6	
Head, neck	6	
Spine	1	
Bruise, abrasion, cut, laceration	16	4.0
Trunk	9	
Head, neck	4	
Upper extremity	3	
Minor head injury	15	3.7
Concussion	13	3.2
Internal injury	10	2.5
Sprain, strain, dislocation	4	1.0
Elbow	2	
Hip	1	
Neck	1	
Other injury	7	1.7
Total	401	100.0

Last Updated: 1998-01-26



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