

Tobogganing Injuries

Each year in Ontario, more than 1,700 people visit an emergency department and more than 100 are hospitalized due to a tobogganing injury.

Results

During the 2004/05 fiscal year, there were a total of 1,731 visits to an emergency department and 108 hospitalizations due to a tobogganing injury in Ontario. About 82% of the emergency department visits were due to a collision with an object (e.g. hitting a tree, rock, fence or being thrown from a toboggan) and the remaining tobogganing incidents were associated with a collision with another person. For hospitalizations, about 77% of the injuries were due to a collision with an object and 23% were associated with a collision with a person.

Males accounted for 58% of emergency department visits and 56% of hospitalizations due to a tobogganing injury in Ontario. For emergency department visits, a large peak in the number of injuries was observed among those 4-15 years of age (Figure 1). For hospitalizations, a peak was seen among those 4-10 years of age. In some cases, detailed results for tobogganing injury hospitalizations are not presented due to small numbers.

For tobogganing-related emergency department visits, the head was the most common site of injury, followed by injuries to the upper and lower limbs (Figure 2). More specifically, cuts to the head and face were most frequent. In contrast, for hospitalizations, the lower limb was the most frequent site for injury, followed by injuries to the back, chest, abdomen, or pelvis. In particular, lower leg fractures were most common.

About 90% of persons who visited an emergency department with a tobogganing injury were discharged home and 5% were admitted to the reporting facility. Fewer than 1% died after arrival in the emergency department. For hospitalized cases, about 94% were discharged home and 4% were discharged to another facility providing inpatient care (e.g., rehabilitation centre). There were no deaths reported after admission to an acute care hospital. The 108 hospitalized cases accounted for more than 300 days in acute care hospitals with an average length of stay of 3.1 days.

FIGURE 1. Emergency department visits for tobogganing injuries by age and sex (Ontario, 2004/2005)

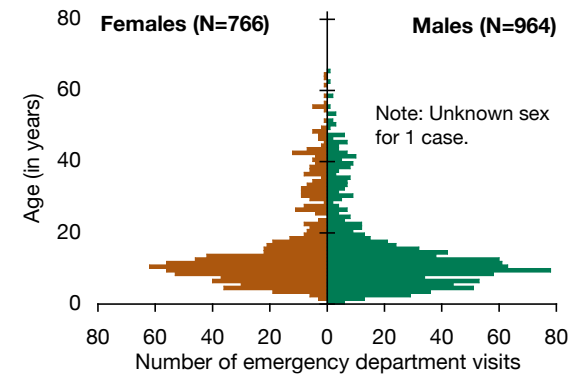
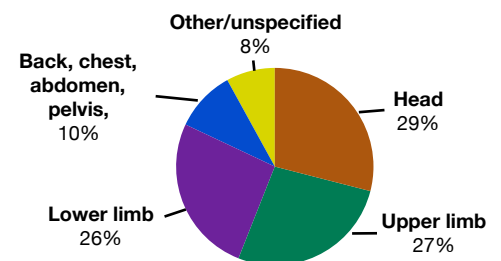


FIGURE 2. Site of injury for tobogganing injuries (Most responsible diagnosis, Ontario, 2004/05)

Emergency Department Visits



Hospitalizations

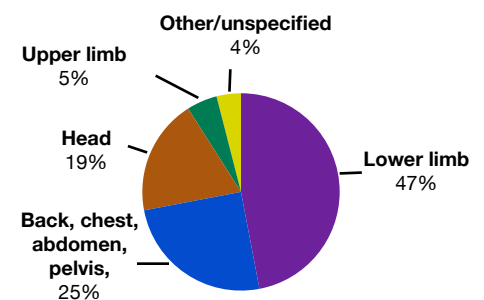


TABLE 1. Regional comparison of tobogganing injuries (Ontario, 2004/05)

	South West	Central South	Central West	Central East	Toronto	East	North	Ontario
Emergency Department Visits								
Number	257	185	213	258	112	355	316	1,731
Rate per 100,000 ^a	17.2	16.9	9.1	12.1	4.9	23.8	41.4	14.9
Average age (in years)	16	16	14	16	18	15	14	15
% male	55	59	55	53	57	58	54	56
Hospitalizations								
Number	19	15	15	11	8	19	20	108
Rate per 100,000 ^a	1.3	1.3	0.7	0.5	0.3	1.2	2.9	0.9
Average age (in years)	13	15	14	22	30	17	16	17
% male	32	40	53	55	38	84	70	56

a. Age-specific rate per 100,000 population. Notes: Unknown sex for 1 emergency department visit. Region of residence unknown/outside of Ontario for 35 emergency department visits and 1 hospitalization.



Ontario Injury Compass

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TABLE 2. Regional comparison of tobogganing injuries for select age groups (Ontario, 2004/05)

	South West	Central South	Central West	Central East	Toronto	East	North	Ontario
Emergency Department Visits - Rate per 100,000 population^a (Number)								
0-4 years	22.8 (19)	14.8 (9)	17.9 (26)	15.8 (19)	9.7 (14)	32.0 (27)	66.5 (28)	21.9 (149)
5-9 years	60.4 (60)	65.6 (48)	33.1 (54)	48.6 (71)	15.4 (23)	106.8 (105)	167.2 (86)	58.4 (456)
10-14 years	77.5 (84)	64.3 (52)	41.7 (70)	49.9 (80)	13.5 (20)	104.0 (114)	172.8 (102)	63.3 (528)
15-19 years	33.4 (37)	39.0 (32)	11.8 (19)	19.7 (31)	12.2 (18)	32.0 (35)	63.1 (39)	26.2 (217)
20-24 years	13.5 (15)	13.6 (11)	9.8 (16)	7.7 (11)	1.7 (<5)	10.0 (11)	15.7 (9)	9.0 (76)
25-29 years	7.1 (7)	11.1 (8)	1.2 (<5)	2.4 (<5)	3.6 (8)	12.3 (13)	28.8 (13)	6.6 (55)
30-34 years	5.9 (6)	7.9 (6)	3.9 (7)	10.4 (15)	3.0 (7)	11.5 (13)	30.9 (16)	7.8 (70)
35-39 years	8.0 (9)	8.0 (7)	2.0 (<5)	5.7 (10)	1.4 (<5)	9.6 (12)	16.7 (10)	5.7 (56)
40-44 years	6.2 (8)	8.0 (8)	4.2 (9)	4.9 (10)	4.6 (10)	8.3 (12)	8.1 (6)	6.0 (65)

a. Age-specific rate per 100,000 population. Note: Region of residence unknown/outside of Ontario for 32 emergency department visits among those under 45 years of age.

December and January were the most common months for a tobogganing injury. This pattern was seen for both emergency department visits and hospitalizations.

For emergency department visits in Ontario, the rate of tobogganing injuries was 14.9 per 100,000 population and the hospitalization rate was 0.9 per 100,000 population (Table 1). By region, the lowest rates of emergency department visits and hospitalizations were observed in the Toronto region and the highest rates were seen in the North region. Regional differences were also observed in the highest numbers and rates of tobogganing injuries by age group (Table 2).

Discussion

This Compass highlights patterns of emergency department visits and hospitalizations for tobogganing injuries in Ontario. Injuries are most common among young Ontarians. Patterns of tobogganing injuries have also been examined in other Ontario and national studies; however, tobogganing is not always the focus of the research.¹⁻⁸

Data for emergency department visits and hospitalizations are presented in this Compass but it is important to remember that these data do not represent the full spectrum of injuries. For example, tobogganing injuries can also result in death before arrival at the hospital.¹ Hence, these types of incidents would not be captured in the data sources reported in this Compass issue.

References

1. Rowe BH, Bota GW. Sledding deaths in Ontario. *Can Fam Physician* 1994;40:68-71.
2. Kirkpatrick SM. Injury analysis: skateboarding v. tobogganing. *CMAJ* 1980;122:159, 163.
3. Reid DC, Saboe L. Spine fractures in winter sports. *Sports Med* 1989;7:393-9.
4. Hackam DJ, Kreller M, Pearl RH. Snow-related recreational injuries in children: assessment of morbidity and management strategies. *J Pediatr Surg* 1999;34:65-8.
5. Lee F, Osmond MH, Vaidyanathan CP, Sutcliffe T, Klassen TP. Descriptive study of sledding injuries in Canadian children. *Inj Prev* 1999;5:198-202.
6. Wynne AD, Bota GW, Rowe BH. Sledding trauma in a north-eastern Ontario community. *J Trauma* 1994;37:820-5.
7. Sibbald B. Winter can be fun until the injuries start. *CMAJ* 1999;160:302.
8. Canadian Institute for Health Information (CIHI). Ontario Trauma Registry Analytic Bulletin. *Sports and Recreational Injury Hospitalizations in Ontario 2002-2003*. Toronto: CIHI, 2004.
9. CHIRPP News. *A profile of sledding injuries*. Issue 9. November 1996. Available at: www.phac-aspc.gc.ca/publicat/chirpp-schirpt/09nov96/iss9f_e.html.

Managing the risk

Tobogganing is a fun and popular winter activity enjoyed by children and adults alike. Here are some tips that can be used to help reduce the risks of injury:

- ❖ Choose a hill with a gentle slope and make sure that there is enough room to stop. Check that the hill is free from potential hazards.
- ❖ Hazards can be difficult to see. Toboggan when you can clearly see and be seen by others.
- ❖ Ensure that you can control your speed and that you can steer or stop quickly.
- ❖ Check your toboggan to make sure that it is in good condition.
- ❖ Wearing a helmet will help to prevent head injuries in both children and adults.
- ❖ Avoid frostbite by dressing in layers and keeping your head, ears, and hands covered.
- ❖ Wear bright coloured and reflective clothing. Scarves, drawstrings, and long hair can get snagged and should be tucked inside your coat.
- ❖ Always sit or kneel facing forward.
- ❖ Make sure that everyone is out of the way before starting down the hill. Toboggan down the middle of the hill, and use the sides to walk to the top.
- ❖ When buying a sled or toboggan, make note of any age restrictions. Carry only the recommended number of passengers on a toboggan.
- ❖ Adults should supervise and accompany children while tobogganing.

For Further Information

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www.smartrisk.ca

Safe Kids Canada

www.safekids.ca

Health Canada, Consumer Product Safety-Winter Sports Safety
www.hc-sc.gc.ca/cps-spc/pubs/cons/winter-hiver_e.html

Methods

Emergency department data were obtained from the National Ambulatory Care Reporting System and data for acute care hospitalizations were obtained from the Discharge Abstract Database at the Canadian Institute for Health Information for the 2004/05 fiscal year. Tobogganing injuries were classified according to the International Classification of Diseases, 10th revision (ICD-10) using codes W22.01 and W51.01. Note that some persons were seen in an emergency department and then admitted to hospital; however, persons can be admitted to hospital without visiting an emergency department. Regions were defined according to place of residence using the Ontario Ministry of Health Region Codes.