

# Soccer Injuries

Each year in Ontario, more than 6,500 people visit an emergency department and more than 200 people are hospitalized due to a soccer injury. June and July are the most common months of injury.

## Results

During the 2004/05 fiscal year, there were a total of 6,783 visits to an emergency department and 211 hospitalizations due to a soccer injury in Ontario. Two-thirds of the emergency department visits were due to a collision with another person and one-third of the visits were due to a collision or being struck by an object (e.g., soccer ball or goal post). For hospitalizations, 59% of soccer injuries were related to a collision with another person and 41% were due to a collision with an object.

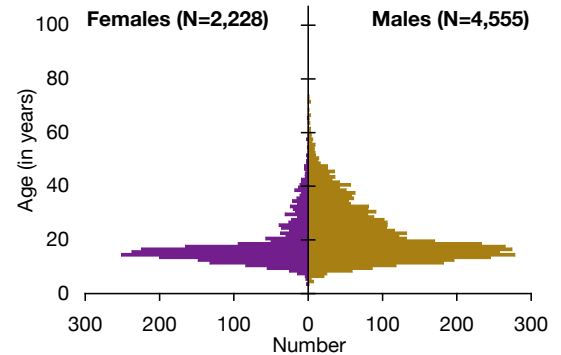
Males accounted for about 67% of emergency department visits and 81% of hospitalizations. For emergency department visits, a peak in the number of injuries was observed among males 9-26 years and females 10-18 years of age (Figure 1). For hospitalizations, a peak was seen among Ontarians 12-20 years of age. Note that data for hospitalizations were not presented in some figures and tables due to small numbers.

For emergency department visits, injuries to the lower limb were most common, specifically sprains and superficial ankle or foot injuries (Figure 2). For hospitalizations, lower limb injuries were the most frequent, in particular, fractures of the lower leg.

June was the most common month of injury for emergency department visits, accounting for 18% of emergency department visits, followed by July. For hospitalizations, July was the most frequent month of injury, followed by June.

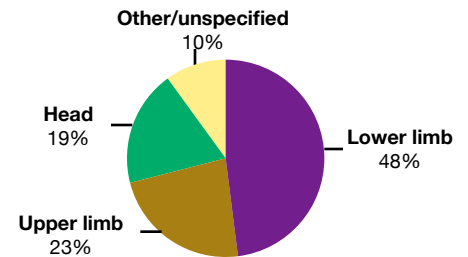
More than 95% of persons who visited an emergency department with a soccer injury were discharged to their place of residence and 2% were admitted to the reporting facility. For hospitalized cases, about 98% were discharged home. No deaths were reported after arrival in the emergency department or after admission to hospital. The 211 hospitalized cases accounted for more than 400 days in acute care hospitals with an average length of stay of 2.1 days.

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

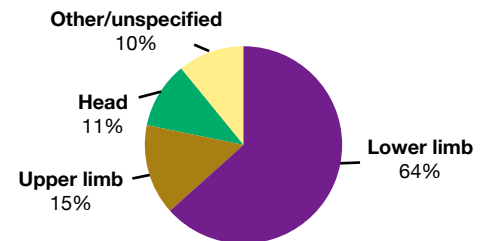


**FIGURE 2. Site of soccer injury (Most responsible diagnosis, Ontario, 2004/05)**

### Emergency Department Visits



### Hospitalizations



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

	South West	Central South	Central West	Central East	Toronto	East	North	Ontario
<b>Emergency Department Visits</b>								
Number	913	618	1,325	1,267	893	1,280	410	6,783
Rate per 100,000 <sup>a</sup>	60.7	56.5	57.8	59.2	38.1	84.2	50.7	58.2
Average age (in years)	18	20	21	19	22	21	18	20
% male	62	70	71	62	83	61	58	67
<b>Hospitalizations</b>								
Number	30	19	53	25	39	30	13	211
Rate per 100,000 <sup>a</sup>	2.0	1.8	2.4	1.1	1.6	2.0	1.6	1.8
Average age (in years)	22	23	25	24	23	25	19	24
% male	73	84	77	76	90	83	77	81

a. Age-standardized rate per 100,000 population.

Note: Region of residence unknown/outside of Ontario for 77 emergency department visits and 2 hospitalizations.

## Ontario Injury Compass

is produced by

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**The Ontario Public  
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Edited by

**Philip Groff, PhD**

Director,  
Research and Evaluation  
**SMARTRISK**  
(416) 596-2718  
pgroff@smartrisk.ca

Principal Analyst

**Kelly Cimek, MSc**

Research Associate  
**SMARTRISK**  
(416) 596-2720  
kcimek@smartrisk.ca

To subscribe to

Ontario Injury Compass  
please email your request to:  
[compass@smartrisk.ca](mailto:compass@smartrisk.ca)

**SMARTRISK**

790 Bay St.  
Suite 401  
Toronto, Ontario  
M5G 1N8  
(416) 977-7350  
[info@smartrisk.ca](mailto:info@smartrisk.ca)  
[www.smartrisk.ca](http://www.smartrisk.ca)

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

	South West	Central South	Central West	Central East	Toronto	East	North	Ontario
<b>Emergency Department Visits - Rate per 100,000 population<sup>a</sup> (Number)</b>								
5-9 years	83.6 (83)	47.9 (35)	44.1 (72)	56.2 (82)	40.2 (60)	50.8 (50)	46.7 (24)	52.5 (410)
10-14 years	269.4 (292)	204.1 (165)	223.9 (376)	250.3 (401)	130.5 (194)	359.5 (394)	232.1 (137)	236.4 (1,973)
15-19 years	241.3 (267)	228.1 (187)	197.4 (318)	243.1 (383)	130.4 (192)	315.8 (345)	213.6 (132)	222.3 (1,844)
20-24 years	109.1 (121)	95.4 (77)	96.0 (157)	73.4 (105)	66.7 (120)	114.9 (127)	78.4 (45)	90.5 (766)
25-29 years	58.6 (58)	87.5 (63)	80.2 (130)	65.2 (81)	56.9 (127)	98.3 (104)	57.6 (26)	72.1 (599)
30-34 years	33.5 (34)	44.8 (34)	53.5 (96)	45.7 (66)	36.9 (87)	83.4 (94)	25.1 (13)	47.6 (429)
35-39 years	19.7 (22)	30.8 (27)	42.2 (85)	36.9 (65)	20.6 (45)	61.5 (77)	21.8 (13)	34.4 (337)

a. Age-specific rate per 100,000 population.

Note: Region of residence unknown/outside of Ontario for 70 emergency department visits among those 5-39 years of age.

By region, the lowest rate of emergency department visits was observed in the Toronto region and the lowest hospitalization rate was seen in the Central East region (Table 1). The highest rate for emergency department visits was seen in the East region and the highest hospitalization rate was observed in the Central West region.

In Ontario, the highest age-specific injury rates were observed among the 10-14 year and 15-19 year age groups (Table 2). Regional variations were seen in the numbers and rates of injury by age group.

## Discussion

This Compass highlights patterns of emergency department visits and hospitalizations for soccer injuries in Ontario. The results of this Compass are consistent with other Canadian research studies that outline lower limb injuries and contact with other players as recurrent patterns of soccer injury.<sup>1-3</sup>

Head injuries and concussions have been identified as an important area of concern, specifically with respect to heading the ball.<sup>3,4</sup> Some studies suggest that these injuries were more often the result of player to player contact or collision with an object than heading the ball.<sup>3,5-8</sup> Further examination is required but the use of proper technique and equipment are emphasized as important considerations in the prevention of head injuries.<sup>3,4,7,8</sup>

Several risk factors have been related to soccer injuries. For example, injuries were more common during games compared to practices, as games typically involve more contact between players and more aggressive and competitive play.<sup>2,8</sup>

## References

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5. Delaney JS, Lacroix VJ, Leclerc S, Johnston KM. Concussions among university football and soccer players. *Clin J Sport Med* 2002;12:331-8.
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8. Giza E, Michell LJ. Soccer injuries. *Med Sport Sci* 2005;49:140-69.

## Managing the risk

**Soccer is a common activity enjoyed by Ontarians of all ages. Here are some tips that can be used to help reduce the risks for injury:**

- ❖ Take time to warm up before games and practices. Ensure you have a good base level of conditioning.
- ❖ Be aware of your limits. Pushing too hard can increase risks for injury. Consult a medical professional before returning to play post injury.
- ❖ Wear the proper gear and make sure it fits properly (e.g., shin guards, footwear, and padding). Use it during games and practices.
- ❖ Use the appropriate equipment and ensure proper use. Use nonabsorbent soccer balls and check the pressure. Ball size should be appropriate for the specific age group.
- ❖ Ensure goals are properly secured. Avoid crawling or climbing on the goal posts or hanging from the crossbar.
- ❖ Check to see that the playing surface is in good condition. Holes on the playing field should be filled, bare spots repaired, and debris removed.
- ❖ Learn and follow the correct techniques (e.g., proper technique for heading the ball).
- ❖ Responsible action is required by everyone involved. Players need to follow the rules and be aware that foul play is not acceptable. Coaches and referees should enforce all the rules of the game and encourage fair play.

## For Further Information

**ThinkFirst Foundation of Canada-Smart Soccer**  
[www.thinkfirst.ca](http://www.thinkfirst.ca)

**Ontario Soccer Association**  
[www.soccer.on.ca](http://www.soccer.on.ca)

**Canadian Soccer Association**  
[www.canadasoccer.com](http://www.canadasoccer.com)

**Canadian Academy of Sport Medicine**  
[www.casm-acms.org](http://www.casm-acms.org)

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## 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. Soccer injuries were classified according to the International Classification of Diseases, 10th revision (ICD-10) using codes W22.04 and W51.04. 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.