

# Falls from Ladders among Ontario Adults

## Understanding the Issue

Ladder-related falls leading to injuries tend to occur among males in middle adulthood.

In 2014/15, there were 8,678 emergency department (ED) visits and 1,112 hospitalizations related to falls from ladders for all ages in Ontario. In over 40% of these cases, the injured persons were adults between the ages of 45 and 64. Over 80% of the cases were injured males.

This Ontario Injury Compass presents injury data for ladder-related falls, with a focus on adults aged 45-64. It also highlights prevention strategies to address the issue.

## Risk Factors

### Age

Considering all ages, the highest number of ED visits in 2014/15 were for

50-54 year olds and 55-59 year olds. (Figure 1). For hospitalizations, the highest numbers were among 60-64 year olds, followed by 55-59 year olds (Figure 2).

### Sex

Males account for the overwhelming majority of ladder-related falls resulting in ED visits and hospitalizations. For adults aged 45-64, 81% of ED visits (3,153 of 3,913) were for males in 2014/15 (Figure 1). Likewise, 82% of hospitalizations (399 of 486) were for injured males (Figure 2). This trend is consistent if we consider all ages in Ontario.

### Location

Adults aged 45-64 were more likely to suffer a ladder-related fall injury at home than any other location in 2014/15. For ED visits where the place of occurrence of the fall was recorded, 67% had taken place at home.

## Time of Year

In 2014/15, the majority of ED visits (61%) and hospitalized cases (62%) occurred in the months of July through December.

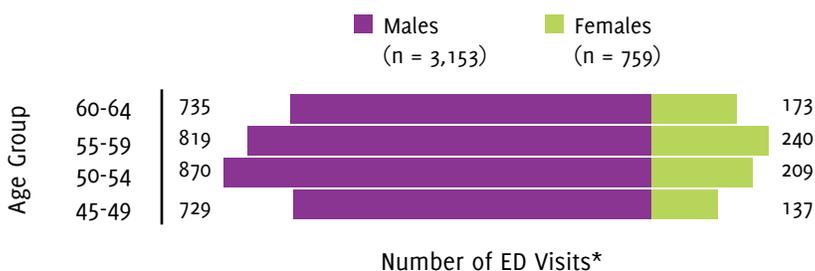
## Injury Diagnosis

Most injuries seen in ED visits in 2014/15 were to the lower extremities (30%) and upper extremities (28%). 24% of injuries were to the trunk area, which includes the back, abdomen, and pelvis. Injuries to the head and neck were diagnosed in 14% of the visits.

## 5-year Trend

Looking at the counts and rates for ED visits over 5 years of data, the trend in ladder-related falls has remained relatively stable (Figure 3). Hospitalizations mirror this trend. Over 5 years, hospitalizations ranged from a low of 486 (2014/15) to a high of 533 (2010/11).

FIGURE 1. ED visits for falls from ladders, ages 45-64, by age group and sex, NACRS, Ontario, 2014/15



\*Note: Sex unknown for 1 case.

FIGURE 2. Hospitalizations for falls from ladders, ages 45-64, by age group and sex, HMDB, Ontario, 2014/15

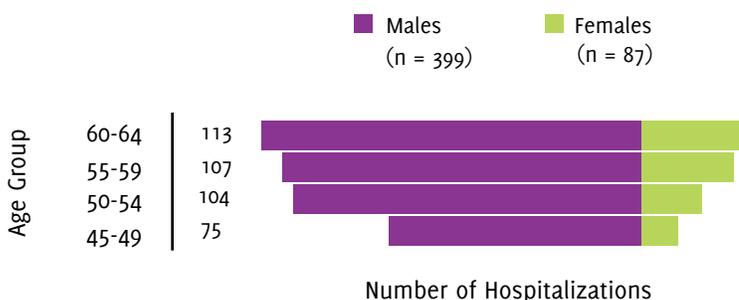
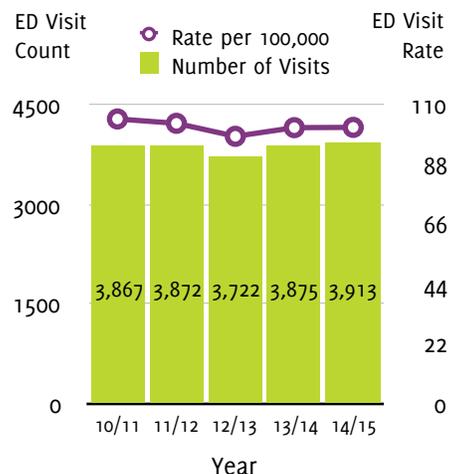


FIGURE 3. ED visits for falls from ladders, ages 45-64, NACRS, Ontario, 2010/11 - 2014/15



## Regional Comparison

In 2014/15, residents of Ontario's Central East region had the highest number of ED visits for ladder-related falls (Table 1). The next highest counts came from the Central West and Eastern regions. The highest ED visit rates were for residents of Northern Ontario, followed by the South West and Eastern regions.

## Prevention Strategies

### Tips for Safer Ladder Use

Key tips to promote for safer ladder use include the following:

#### Setting Up

- ▶ Select an appropriate, CSA approved ladder for the task you are performing.
- ▶ Check the ladder for any defects, such as loose screws or cracks. Make sure the ladder rungs are dry.
- ▶ Place the ladder where access is not obstructed, and especially away from unlocked doors.
- ▶ Place the ladder on level ground.
- ▶ The distance from the feet of an extension ladder to the wall should be no more than  $\frac{1}{4}$  -  $\frac{1}{3}$  of the height of the wall it is reaching.
- ▶ Open the ladder completely, making sure all locks are engaged.

#### During Use

- ▶ Ensure your hands and feet are free from grease, oil or other substances before climbing.
- ▶ Always face the ladder when climbing and wear slip-resistant shoes.
- ▶ Stand at or below the highest safe standing level on a ladder. For a stepladder, this is the second rung from the top. For an extension ladder, it is the fourth rung from the top.
- ▶ Take the time to move the ladder as necessary to avoid overreaching. Rule of thumb: If your belt buckle crosses

TABLE 1. ED visits for falls from ladders, ages 45-64, by region, NACRS, Ontario, 2014/15

	Central East	Central West	East	North	South West	Toronto	Totals
Number	1,528	1,118	879	504	873	609	5,511
Percent	27%	20%	16%	9%	16%	11%	99%
Rate	95.8	108.0	118.6	142.0	130.8	59.2	-

\*Note: 81 ED visits (1%) were for patients from outside the province.

either side of the ladder, you are reaching too far.<sup>1</sup>

### Example of a Prevention Campaign

The DIY (Do-It-Yourself) Falls Campaign was implemented to reduce ladder falls in a New Zealand district. This was a multi-component campaign to raise awareness and change behaviours. The components included media coverage, event and trade show participation, point-of-sale training (at hardware stores, for instance), and a ladder amnesty where community members could trade in shoddy ladders for new ones at a discount. The impact evaluation of the campaign showed an 86% commitment to behavioural change in respondents. In addition, 58% reported they had spoken to others about the issue.<sup>2</sup>

Read more about the DIY Falls Campaign: [www.onf.org/system/attachments/294/original/MLF\\_COMBO\\_RS\\_Fin\\_Dec\\_14.pdf](http://www.onf.org/system/attachments/294/original/MLF_COMBO_RS_Fin_Dec_14.pdf)

## Methodology

ED visit data were obtained from the National Ambulatory Care Reporting System (NACRS) and hospitalization data from the Hospital Morbidity Database (HMDB) at CIHI. All data years are fiscal years (April 1, 2014 - March 31, 2015). These data, as well as population numbers for calculating rates, were accessed using IntelliHEALTH ONTARIO through the Ministry of Health and Long-Term Care. ICD-10 coding was used to isolate falls from ladders (W11).

## References

1. Ontario Injury Prevention Resource Centre. (2009). *Falls from Ladders*. Ontario Injury Compass, 6(12). Toronto: SMARTRISK.
2. Volpe, R. (2014). *Best Practices in the Prevention of Mid-life Falls in Everyday Activities*. Toronto: Ontario Neurotrauma Foundation.

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