The pyramid of injury was developed to show the relationship between the number of injuries resulting in fatal, serious and less serious outcomes. Injury continues to be shown in this form to the present day. One pyramid shape is not sufficient, however, to describe the complex patterns of injury across different factors. This factsheet uses a series of pyramids based on New Zealand data from 2000 and 2001 to illustrate how the injury pyramid changes across different intents, mechanisms and age groups.

In each pyramid the width of the top of the pyramid represents the number of injury fatalities (these numbers are also given beside the pyramid). The width of the middle of the pyramid represents the number of people hospitalised with serious injuries*, and the width at the base the number of people hospitalised with moderate injuries. Those seen only by emergency departments or general practitioners are not included. Note that it is the width at three points, NOT the area, that represents the number of cases.

The overall injury pyramid (Figure 1) shows that many more moderate injuries occur than serious or fatal injuries. Figure 2 shows that the majority of moderate, serious and fatal injuries are unintentional. The remainder of this factsheet focuses on unintentional injuries and the major mechanisms of injury.

* Serious injuries are injuries that result in hospitalisation and are more likely to result in death (determined as having a probability of death greater than 6%). Moderate injuries are those that result in hospitalisation but are less likely to result in death.

- Falls were the cause of the largest number of unintentional injuries (44,836), the largest number of moderate injuries (36,353), and were the second most common reason for fatalities (531).
- The largest number of unintentional injury fatalities came from motor vehicle traffic crashes (861). Motor vehicle traffic crashes also contributed the second largest number of serious injuries (3,110), and the third largest number of moderate injuries (8,549).

* Contains injuries from other mechanisms such as explosion, radiation, caught between, and injuries where the mechanism is not specified.

**Figure 1. All Injury for New Zealand, 2000-2001**

**Figure 2. All Injury by Intent, 2000-2001**

**Figure 3. Unintentional Injuries by Mechanism, 2000-2001**

- For each fatality from an unintentional fall there were 68 moderate injuries. For each fatality from other mechanisms there was the following number of moderate injuries:
  - Drowning: 2
  - Suffocation: 4
  - Motor Vehicle Traffic Crash: 10
  - Firearm: 19
  - Fire/Hot substance or liquid: 26
  - Other transport: 52
  - Poisoning: 59
  - Natural/Environmental: 111
  - Machinery: 151
  - Struck by or against: 307
  - Overexertion: 1,557
  - Cut/Pierce: 1,734

- **Figure 4. Unintentional Injuries by Age Groups, 2000-2001**
Unintentional Falls

Figure 4. Unintentional Falls by Fall Type, 2000-2001 (All ages)

- ‘Fall on the same level due to slipping, tripping or stumbling’ was the most common type of fall and had the largest number of moderate (9,774) and serious (3,226) injuries and the second largest number of fatalities (140).
- Falls from playground equipment contributed a large number of moderate injuries (3,676) but no fatalities.

Unintentional Motor Vehicle Traffic Crashes (MVTCs)

Figure 6. Unintentional MVTCs by Road User Type, 2000-2001 (All ages)

- Of all road users, car occupants had the largest number of traffic crash injuries (8,800). In comparison, there were 3,043 injuries to pedal cyclists.
- For pick-up truck or van occupants, heavy transport vehicle occupants, and car occupants there were 3 moderate injuries for each serious one. There were 4, 7 and 10 moderate injuries for each fatality for these road user types respectively.

Figure 5. Unintentional Falls by Age Group, 2000-2001

- The 5-9 year age group had the largest number of unintentional fall injuries of all age groups (5,431), closely followed by those aged 85 and over (5,416). Those aged 10-14 years were the third most affected age group (4,008).
- The total number of unintentional fall injuries was similar for those aged 5-9 years and those aged 85 years and over, but the pyramid shapes differ considerably. For 5-9 year olds there were 57 moderate injuries for each serious injury and 5,337 moderate injuries for each fatality. For those aged 85 years and over there was one moderate injury for each serious injury and 11 moderate injuries for each fatality.

Unintentional Motor Vehicle Traffic Crashes (MVTCs)

Figure 7. Unintentional MVTCs by Age Group, 2000-2001

- The number of injuries from MVTCs was largest for the group aged 15 to 19 years. From this age group the total number of MVTCs reduced as age increased. For the 15-19 year olds, there were 3 moderate injuries for each serious injury, and 17 moderate injuries for each fatality. Among those aged 85 years and over there were 2 moderate injuries for each serious injury and 7 moderate injuries for each fatality.


For further details on injury data visit our website: http://www.otago.ac.nz/irpu/Stats/

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