# WORK-RELATED INJURIES RESULTING IN HOSPITALISATION

## JULY 2006 TO JUNE 2009


February 2013

safe work australia

Safe Work Australia

# Work-related injuries resulting in hospitalisation

**July 2006 to June 2009**

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ISBN 978-0-642-78721-7 (Online PDF)
ISBN 978-0-642-78722-4 (Online DOC)



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# Foreword

This report examines workers known to have sustained an injury of such severity that they were admitted to a hospital for medical treatment. The report is based on hospital separation data supplied by the Australian Institute of Health and Welfare (AIHW) from the National Hospital Morbidity Database (NHMD). A hospital separation occurs when an episode of care for an admitted patient ceases. Since a person may have had more than one period of hospitalisation during the period July 2006 to June 2009 hospitalisation counts are not counts of individuals.

Hospitalisation data provides a valuable alternative insight into the types and causes of work-related injury to that provided by other information sources, such as workers' compensation data. Hospitalisation data has the advantage of potentially including both employees and self-employed workers whereas workers' compensation data is limited to employees. However, hospitalisation data is itself limited in scope since by definition it only includes injuries serious enough to require a period or hospitalisation and therefore excludes less serious injuries where other medical treatment sufficed.

Information recorded about a patient's period of hospitalisation is coded to the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD–10–AM). This classification system provides considerable detail on the circumstances of the patient's injury or disease. In particular, the external causes codes allow detailed disaggregation of causes of injury such as *Exposure to inanimate mechanical forces*, *Falls* and *Transport accidents.* The codes also allow disaggregation on the basis of the type of injury and the bodily location of the injury. The prime defining code for this study is the activity the worker was carrying out when they sustained the injury that resulted in a period of hospitalisation. The activity when injured code not only allows the identification of patients that were injured while working for income but also in many cases identifies the place where the injury was sustained and the industry sector in which they worked. The number of days a worker remained in hospital also gives a useful indicator of the severity of an injury.

This detailed information on hospitalised workers provides great insight into where and how they were injured and the types of injury they sustained. In conjunction with other information sources such detail may inform policy formulation and could guide the development of prevention strategies to reduce the number of workers injured at work.

Hospitalisation data is not a perfect source of information. Since the information should be recorded for all patients separating from most hospitals in Australia the collection can be considered a census rather than a survey. As a consequence although sample error is not relevant non-sample error still exists. This includes issues with the accuracy or completeness of the information recorded. One particular limitation of this report is the high level of non-response for the activity when injured question which is necessary to identify hospitalisations that were the result of a work-related injury. This uncertainty in the true number of hospitalisations that were known to be work-related means that rates of hospitalisation are not presented in this report and the focus of analysis is the distributional characteristics of those patients that were known to have sustained a work-related hospitalisation.

Part A of the report presents analysis of all known work-related hospitalisations while Part B examines similar aspects of the hospitalisations for work-related hospitalisations where the industry sector was known. Part C of the report looks at the three main causes of injury that led to a period of hospitalisation. These were *Exposure to inanimate mechanical forces*, *Falls* and *Transport accidents.*

# Contents

# Standard symbols and abbreviations

The following abbreviations and symbols are used in this publication:

| Abbreviation | Full name |
|---|---|
| ABS | Australian Bureau of Statistics |
| ANZSIC | Australian and New Zealand Standard Industrial Classification |
| AIHW | Australian Institute of Health and Welfare |
| ICD-AM-10 | International Statistical Classification of Diseases and Related |
| NDS | National Data Set for Compensation-based Statistics |
| nec | not elsewhere classified |
| NHMD | National Hospital Morbidity Database |

# Summary of findings

Over the three-year period from July 2006 to June 2009 the Australian Institute of Health and Welfare's (AIHW) hospitalisation database recorded approximately 73 400 hospitalisations across Australia where the patient was aged 15 years or over and their activity when injured was recorded as while 'Working for income'. Part A of this report examines work-related hospitalisations primarily on the basis of the following sub-headings.

## Sex distribution and age groups

Of the 73 400 hospitalisations 62 900 (86%) were of males and 10 500 were of females (14%). Young male workers aged 15–24 years were the most likely to have sustained a work-related injury resulting in hospitalisation since they represented 9% of all workers but 18% of work-related hospitalisations. Conversely, female workers aged 35–44 years were the least likely to have sustained a work-related injury resulting in hospitalisation since they represented 11% of all workers but accounted for just 2.8% of work-related hospitalisations.

## Causes of injury

The most common cause of work-related injury resulting in hospitalisation was *Exposure to inanimate mechanical forces* — a broad category that accounted for 46% of work-related hospitalisations and covers many specific causes, the three most common of which were:

- *Struck by thrown, projected or falling object* (6% of work-related hospitalisations)
- *Caught, crushed, jammed or pinched in or between other* [than a door] *objects* (5%), and
- *Contact with other specified machinery* (4%).

The proportion of males hospitalised for a work-related injury caused by *Exposure to inanimate mechanical forces* was double the proportion of females hospitalised for the same cause of injury (50% compared with 24% respectively).

The second most common broad cause of work-related injury resulting in hospitalisation was *Falls* — a category that accounted for 16% of work-related hospitalisations. The most common detailed sub-categories of *Falls* were:

- *Fall on or from a ladder* (2.6% of work-related hospitalisations)
- *Unspecified fall* (2.3%), and
- *Other fall from one level to another* (2.2%).

The proportion of females hospitalised for a work-related injury caused by *Falls* was double the proportion of males hospitalised for *Falls* (31% compared with 14% respectively). This disparity increased with age since the proportion of injuries caused by *Falls* was 16% among hospitalised females aged 15–24 years and 64% among those aged 65 years and over. The comparable figures for hospitalised males were 9% among those aged 15–24 and 25% among those aged 65 years and over.

Part C of this report examines the three main causes of injury — *Exposure to inanimate mechanical forces*, *Falls* and *Transport accidents* — in detail.

## Place of occurrence

The three most common specific places of occurrence for incidents that led to a work-related hospitalisation were:

- *Factory & plant* (16% of work-related hospitalisations for which a place of occurrence was specified)
- *Farm* (11% ), and
- *Construction area* (9%).

## Type of injury

The three most common types of injury sustained by workers hospitalised because of a work-related injury were:

- *Fractures* (27% of work-related hospitalisations)
- *Open wounds* (18%), and
- *Muscle & tendons* (12%).

## Bodily location

The three most common bodily locations of work-related injuries were:

- *Wrist & hand* (38% of work-related hospitalisations)
- *Knee & lower leg* (13%), and
- *Trunk* (8%).

The highest proportions of *Wrist & hand* injuries were found among hospitalised Manufacturing workers (59%), Construction workers (43%) and Wholesale & retail trade workers (41%).

## Length of stay in hospital

The majority (70%) of work-related hospitalisations involved only 1 day in hospital while 1.9% extended to 15 days or more.

The average length of stay for a work-related hospitalisation was 2.3 days.

The longest average periods of hospitalisation were for injuries to:

- *Internal organ* (6.5 days)
- *Burn & corrosion* (5.1 days), and
- *Intracranial* (3.7 days).

## Industry sector

The most commonly specified industry sectors for work-related hospitalisations were:

- Construction (19% of work-related hospitalisations with a specified industry)
- Agriculture, forestry & fishing (14%)
- Manufacturing (11%); and
- Transport & storage (8%).

Part B of this report examines the main industry sectors in detail.

# Part A

## All work-related hospitalisations

July 2006 to June 2009

# Work-related hospitalisations

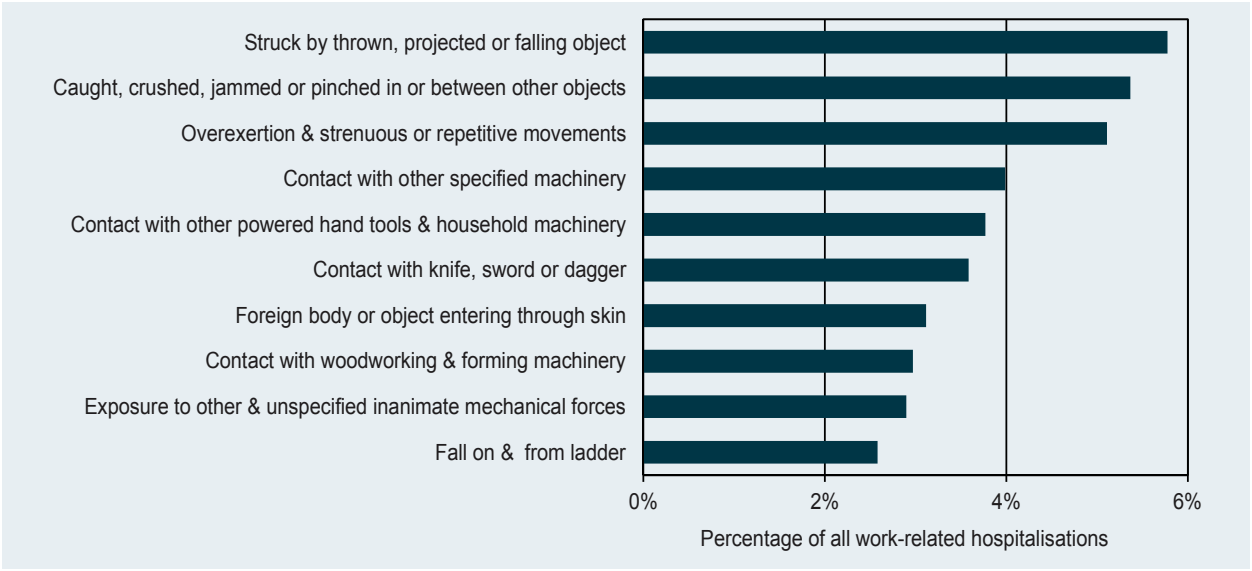
Over the three-year period from July 2006 to June 2009 the Australian Institute of Health and Welfare's (AIHW) hospitalisation database recorded approximately 73 400 hospitalisations across Australia where the patient was aged 15 years or over and their activity when injured was recorded as while 'Working for income'. However, because of the large number of hospitalisations for injury where activity when injured was recorded as 'Unspecified activity' the true number of work-related hospitalisations is likely to be higher than this figure (see Explanatory notes). For this reason rates of hospitalisation are not presented and information presented in this report is limited to percentage distributions and the broad number of hospitalisations the tables are based on.

This section examines the circumstances of the hospitalisation and the characteristics of people that were known to be hospitalised for an injury sustained while working for income during the three-year period July 2006 to June 2009. The reader should note that because some patients would have had more than one period of hospitalisation during the period the hospitalisation counts are not equivalent to individuals.

## Causes of injury

Figure 1 shows that over the three-year period the most commonly specified cause of work-related hospitalisation was being *Struck by thrown, projected or falling object*: accounting for 6% of work-related hospitalisations. Other commonly specified causes of injury included being *Caught, crushed, jammed or pinched in or between other* [than a door] *objects* (5% of hospitalisations) and *Overexertion & strenuous or repetitive movements* (5%).

***Figure 1*** **Work-related hospitalisations June 2006 to July 2009: percentage of work-related hospitalisations by the most commonly specified causes of injury**




Note: These ten causes of injury together accounted for a total of 39% of work-related hospitalisations.

***Table 1*** **Work-related hospitalisations July 2006 to June 2009: percentage of hospitalisations by cause of injury and sex**

| | Percentage of work-related hospitalisations | | |
|---|---|---|---|
| Cause of injury | Males | Females | Total |
| Exposure to inanimate mechanical forces | 49.7% | 23.7% | 46.0% |
| *Struck by thrown, projected or falling object* | *6.3%* | *2.5%* | *5.8%* |
| *Caught, crushed, jammed or pinched in or between other objects* | *5.9%* | *2.1%* | *5.4%* |
| *Contact with other specified machinery* | *4.1%* | *3.3%* | *4.0%* |
| *Contact with other powered hand tools & household machinery* | *4.2%* | *1.1%* | *3.8%* |
| *Contact with knife, sword or dagger* | *3.7%* | *3.1%* | *3.6%* |
| *Foreign body or object entering through skin* | *3.5%* | *1.0%* | *3.1%* |
| *Contact with woodworking & forming machinery* | *3.4%* | *0.4%* | *3.0%* |
| *Exposure to other & unspecified inanimate mechanical forces* | *3.2%* | *1.4%* | *2.9%* |
| *Striking against or struck by other objects* | *2.6%* | *2.4%* | *2.6%* |
| *Contact with metalworking machinery* | *2.5%* | *0.3%* | *2.2%* |
| *Contact with nonpowered hand tool* | *1.8%* | *0.8%* | *1.6%* |
| *Contact with lifting & transmission devices, nec.* | *1.8%* | *0.8%* | *1.6%* |
| *Contact with sharp glass* | *1.5%* | *2.2%* | *1.6%* |
| Falls | 14.0% | 30.5% | 16.3% |
| *Fall on & from ladder* | *2.8%* | *1.4%* | *2.6%* |
| *Unspecified fall* | *1.8%* | *5.7%* | *2.3%* |
| *Other fall from one level to another* | *2.3%* | *1.3%* | *2.2%* |
| *Fall on same level from slipping* | *1.3%* | *7.1%* | *2.1%* |
| *Fall on same level from tripping* | *1.1%* | *5.7%* | *1.8%* |
| *Fall on & from stairs & steps* | *0.5%* | *3.1%* | *0.8%* |
| *Fall on & from scaffolding* | *0.9%* | *0.0%* | *0.7%* |
| *Fall from roof* | *0.8%* | *0.0%* | *0.7%* |
| Transport accidents | 9.0% | 10.1% | 9.1% |
| *Other land transport accidents* | *2.3%* | *3.3%* | *2.4%* |
| *Occupant of heavy transport vehicle injured in transport accident* | *1.9%* | *0.3%* | *1.7%* |
| *Car occupant injured in transport accident* | *1.2%* | *3.5%* | *1.6%* |
| *Motorcycle rider injured in transport accident* | *1.6%* | *1.1%* | *1.5%* |
| Overexertion, travel & privation | 4.6% | 8.0% | 5.1% |
| *Overexertion & strenuous or repetitive movements.* | *4.6%* | *8.0%* | *5.1%* |
| Exposure to animate mechanical forces | 2.1% | 4.5% | 2.5% |
| *Bitten or struck by cattle* | *0.7%* | *0.8%* | *0.7%* |
| *Bitten or struck by horse.* | *0.3%* | *1.3%* | *0.5%* |
| Assault | 1.8% | 1.4% | 1.8% |
| Accidental poisoning by & exposure to noxious substances | 1.4% | 2.1% | 1.5% |
| Exposure to electric current, radiation & extreme ambient air temperature & pressure | 1.3% | 1.2% | 1.3% |
| Contact with heat & hot substances | 1.0% | 2.0% | 1.2% |
| Contact with venomous animals & plants | 0.8% | 0.6% | 0.7% |
| Exposure to smoke, fire & flames | 0.7% | 0.4% | 0.7% |
| Exposure to forces of nature | 0.4% | 0.3% | 0.3% |
| **Total** | **100%** | **100%** | **100%** |
| **Work-related hospitalisations July 2006 to June 2009** | **62 900** | **10 500** | **73 400** |

Note: Detailed sub-categories are shown to approximately 1% overall representation so the sub-categories do not necessarily sum to the percentage shown at the broad level.

Table 1 shows the main causes of work-related hospitalisations at the broad category level along with the most common underlying causes.

Nearly half the work-related hospitalisations were caused by *Exposure to inanimate mechanical forces*

At the broad level, *Exposure to inanimate mechanical forces* was the most common cause of hospitalisation: accounting for nearly half (46%) of work-related hospitalisations. At the more detailed level, the most common sub-categories were being *Struck by thrown, projected or falling objects* (responsible for 6% of work-related hospitalisations); *Caught, crushed, jammed or pinched in or between other objects* (5%); and *Contact with other specified machinery* (4%).

*Falls* were also a common cause of injury leading to hospitalisation. Overall 16% of work-related hospitalisations resulted from a fall that most commonly occurred as a result of slipping or tripping (3.9% of work-related hospitalisations when combined, or 2.1% and 1.8% respectively). A *Fall on or from a ladder* was also a common cause, accounting for 2.6% of work-related hospitalisations or 16% of all *Falls* resulting in a work-related hospitalisation.

Most aspects of the 2006/2009 hospitalisations data were similar to those reported for 2002/2004

The overall proportions of hospitalisations highlighted for the three-year period covering July 2006 to June 2009 are little different from those previously reported for the two-year period July 2002 to June 2004 (ASCC, 2007). For example *Falls* accounted for 16% of hospitalisations in both periods. This consistency in the ways workers are injured suggests little change has taken place in either workplace hazards or worker's behaviors over that time. Ideally, incidence rates of hospitalisation would be used to compare the two periods to establish if the likelihood of a worker experiencing a work-related hospitalisation has increased or decreased. However, the level of uncertainty in the number of work-related hospitalisations means other data sources are needed to comment broadly on changes in the risk of a worker sustaining a work-related injury. The incidence rate of injury based on workers' compensation claims shows the risk of a worker experiencing a serious work-related injury has decreased by about 16% over the period discussed (Safe Work Australia, 2012b).

Far more males were hospitalised for a work-related injury than females

Over the three-year period examined in this report, 86% of work-related hospitalisations were of males: a dominance that features in most work health and safety statistics and that reflects among other factors the predominance of male workers in the most physically hazardous industries such as Agriculture, forestry & fishing, Construction and Mining.

When the causes of hospitalisation are examined on the basis of the sex of the worker some notable differences are observed. The proportion of males (50%) that were hospitalised by a work-related injury due to *Exposure to inanimate mechanical forces* was about double that for females (24%). Conversely, hospitalised female workers were more commonly injured by *Falls* than male workers: 31% compared with 14% respectively.

The reader should note the distributional characteristics discussed are not measures of the difference in the *likelihood* of injury from these causes between male and female workers — just differences in the causes of injuries among males and females who were hospitalised because of a work-related injury.

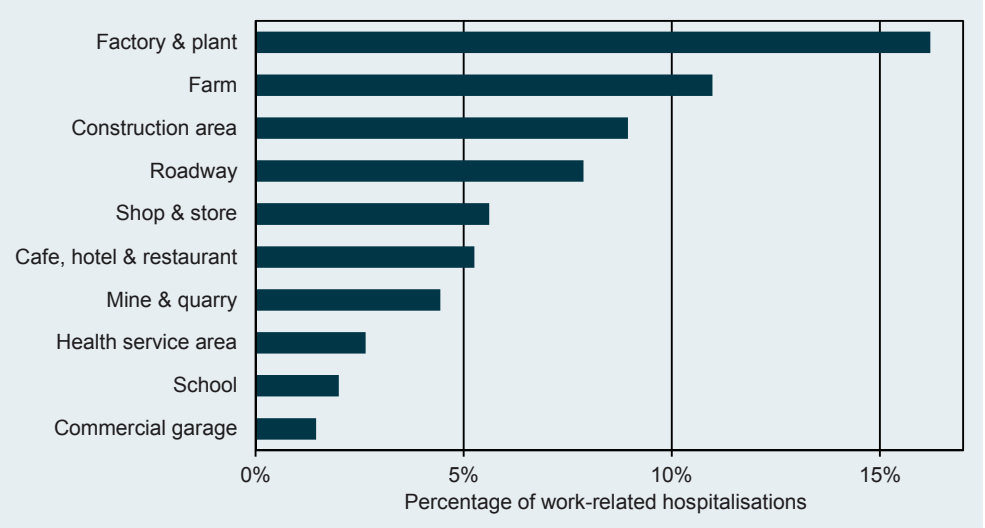
# Place of occurrence of injury

Patients leaving hospitals are asked about the location where the incident that led to their injury took place. This information is recorded as the 'Place of occurrence'. For nearly half (45%) of the work-related hospitalisations that are the subject of this report, no place of occurrence information was recorded. This high proportion of missing information means the patterns reported here may be different to those that would have been observed if the place of occurrence had been recorded for all patients.

A *Factory & plant* was the most common place of occurrence of injury

Figure 2 shows that over the three-year period the most common specific place of occurrence for incidents that led to a work-related hospitalisation was *Factory & plant*, accounting for 16% of work-related hospitalisations for which place of occurrence was specified. The next most common were a *Farm* (11%) and a *Construction area* (9%).

***Figure 2*** **Work-related hospitalisations June 2006 to July 2009[a]: percentage of work-related hospitalisations by the most commonly specified[b] places of occurrence of injury**




a Where the place of occurrence was specified.
b Shows only specific categories, not other specified and unspecified categories.

Note: These ten specific places of occurrence together accounted for a total of 65% of work-related hospitalisations for which place of occurrence was specified.

Table 2 shows further information on place of occurrence both at the broad level and at the more detailed level for the more common locations.

Males were most commonly injured at an *Industrial or construction area*

Females who were hospitalised for a work-related injury were most commonly injured at a *Trade & service area* (32% of female hospitalisations for which place of occurrence was specified) or a *School, other institution & public administrative area* (20%), whereas nearly half of the hospitalised males who specified the place of occurrence (46%) were injured at an *Industrial & construction area*. These patterns reflect the predominance of men in the construction and manufacturing industries and the predominance of women in the health and education industries.

***Table 2*** **Work-related hospitalisations July 2006 to June 2009: percentage of hospitalisations with specified place of occurrence by place of occurrence of injury**

| | Percentage of work-related hospitalisations with specified place of occurrence | | |
|---|---|---|---|
| Place of occurrence of injury | Males | Females | Total |
| Industrial & construction area | 46.1% | 11.5% | 40.4% |
| *Factory & plant* | *17.9%* | *7.5%* | *16.2%* |
| *Construction area* | *10.6%* | *0.5%* | *9.0%* |
| *Mine & quarry* | *5.1%* | *1.0%* | *4.4%* |
| *Shipyard* | *0.6%* | *0.1%* | *0.5%* |
| *Oil & gas extraction* | *0.4%* | *0.0%* | *0.3%* |
| *Demolition site* | *0.2%* | *0.0%* | *0.2%* |
| *Power station* | *0.2%* | *0.0%* | *0.1%* |
| Trade & service area | 17.9% | 31.5% | 20.2% |
| *Shop & store* | *4.5%* | *11.5%* | *5.6%* |
| *Cafe, hotel & restaurant* | *4.2%* | *10.7%* | *5.3%* |
| *Commercial garage* | *1.6%* | *0.6%* | *1.5%* |
| *Office building* | *0.3%* | *2.3%* | *0.6%* |
| Farm | 11.2% | 9.8% | 11.0% |
| Street & highway | 8.8% | 10.1% | 9.0% |
| *Roadway* | *7.8%* | *8.2%* | *7.9%* |
| *Sidewalk* | *0.5%* | *1.4%* | *0.6%* |
| School, other institution & public administrative area | 2.6% | 19.5% | 5.4% |
| *Health service area* | *1.1%* | *10.6%* | *2.7%* |
| *School* | *1.0%* | *7.1%* | *2.0%* |
| Home | 2.8% | 3.2% | 2.8% |
| Sports & athletics area | 1.4% | 3.0% | 1.7% |
| *Racetrack & racecourse* | *0.8%* | *1.8%* | *1.0%* |
| *Sporting grounds (outdoor)* | *0.3%* | *0.2%* | *0.3%* |
| *Sporting hall (indoor)* | *0.1%* | *0.4%* | *0.1%* |
| *Equestrian facility* | *0.0%* | *0.3%* | *0.1%* |
| Residential institution | 0.5% | 3.5% | 1.0% |
| *Aged care facilities* | *0.1%* | *2.5%* | *0.5%* |
| *Prison* | *0.1%* | *0.2%* | *0.2%* |
| *Military camp* | *0.1%* | *0.2%* | *0.1%* |
| Other specified place of occurrence | 8.7% | 7.9% | 8.6% |
| *Large area of water* | *1.2%* | *0.7%* | *1.2%* |
| *Forest* | *0.5%* | *0.2%* | *0.5%* |
| *Other specified countryside* | *0.3%* | *0.3%* | *0.3%* |
| *Parking lot* | *0.2%* | *0.5%* | *0.2%* |
| *Beach* | *0.1%* | *0.1%* | *0.1%* |
| **Total** | **100%** | **100%** | **100%** |
| **Work-related hospitalisations with specified place of occurrence** | **33 600** | **6 600** | **40 300** |
| **Work-related hospitalisations July 2006 to June 2009** | **62 900** | **10 500** | **73 400** |

Note: Detailed sub-categories are shown to approximately 0.1 percent overall representation and exclude other specified and unspecified categories so the sub-categories do not necessarily sum to the percentage shown at the broad level.

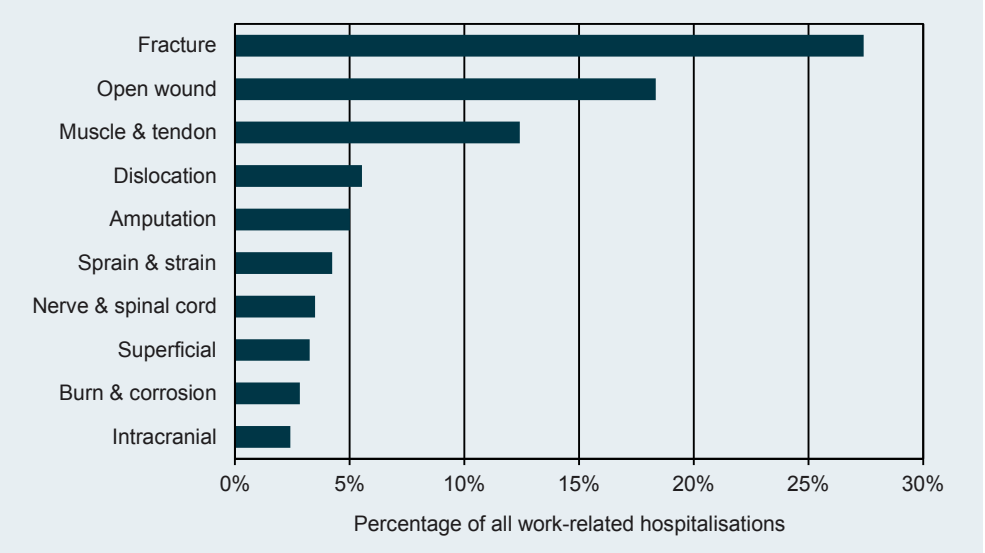
# Type of injury and bodily location

The type of injury refers to the injury that led to the worker experiencing a period of hospitalisation: the full detail is recorded in the hospitalisations database as the "Principal diagnosis" (see Explanatory notes). The principal diagnosis codes also identify the bodily location for most injuries. Both the type of injury and the bodily location of the injury are discussed in this section.

*Fractures* were the most common type of injury sustained by hospitalised workers

Figure 3 shows the most common types of injury sustained by workers hospitalised because of a work-related injury. *Fractures* were responsible for just over one-quarter (27%) of work-related hospitalisations over the period June 2006 to July 2009. Other common types of injury responsible for the hospitalisation of workers were *Open wounds* (18% of work-related hospitalisations) and injuries to *Muscle & tendons* (12%).

***Figure 3*** **Work-related hospitalisations June 2006 to July 2009: percentage of work-related hospitalisations by the most commonly specified types of injury**



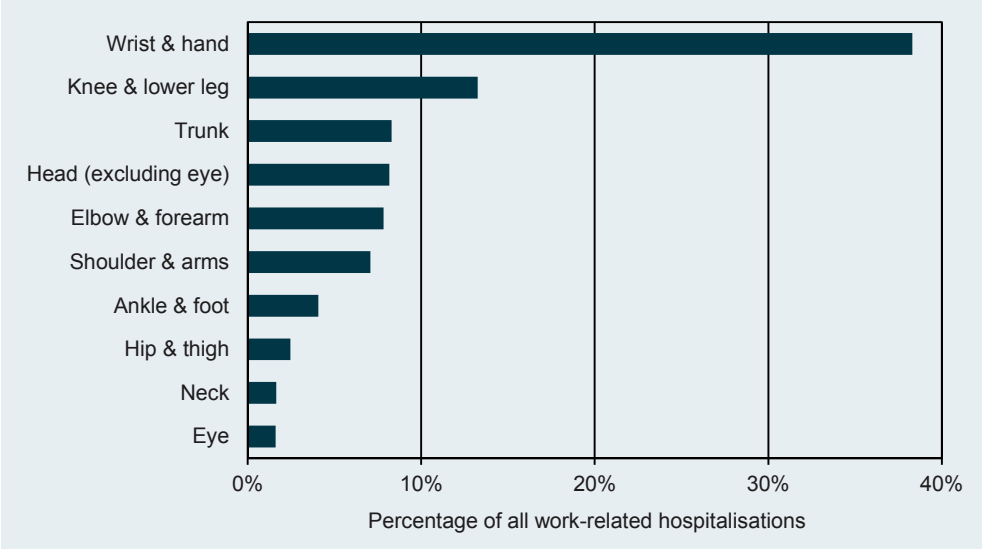

Note: These ten most common types of injury together accounted for a total of 85% of work-related hospitalisations.

The *Wrist & hand* was by far the most common bodily location of injury

Figure 4 shows that overall injuries to the *Wrist & hand* were responsible for 38% of work-related hospitalisations: by far the most common part of the body injured among workers who experienced a work-related hospitalisation over the period June 2006 to July 2009. The majority of these injuries involved the fingers or thumbs (24% of work-related hospitalisations). Other common bodily locations of injury include the *Knee & lower leg* (13% of work-related hospitalisation) and the *Trunk* (8%).

This dominance of injuries to the *Wrist & hand* highlights the vulnerability of a worker's hands to injury and reflects the degree to which we use our hands for most physical activities. Readers interested in more detailed information on *Wrist & hand* injuries can download *Work-related hand and wrist injuries in Australia* (ASCC 2008) from the Safe Work Australia web site. This report found that using a sharp edged tool, operating powered plant or machinery that was not properly guarded, using a powered hand tool or appliance that was not properly guarded or that locked, and preparing food with an appliance or a knife, were the most common activities associated with injuries to the hand and wrist. Guarding was a

***Figure 4*** **Work-related hospitalisations June 2006 to July 2009: percentage of work-related hospitalisations by the most common bodily locations of injury**




Note: These ten most common locations of injury together accounted for a total of 93% of work-related hospitalisations.

problem in a sizable minority of the injuries, as was locking or jamming power tools, suggesting design issues should be a focus of preventative activity.

Table 3 shows both the type of injury sustained by the worker and the most common bodily locations of the injury. Injuries to the *Wrist & hand* were the most common bodily location for most types of injury. In 62% of work-related hospitalisations for an *Open wound*, the bodily location was *Wrist & hand* and these injuries accounted for 11% of all work-related hospitalisations.

*Fractures* which alone were responsible for just over one-quarter (27%) of work-related hospitalisations also most commonly involved the *Wrist & hand* (one-third of work-related hospitalisations for a *Fracture* or 9% of all work-related hospitalisations).

Amputation was the reported injury for 5% of work-related hospitalisations, nearly all of which involved the *Wrist & hand* (4.9% of all work-related hospitalisations) since most involved the amputation of finger/s or thumb.

The differences in the types of injury for males and females were generally minor

Differences between males and females in the type of injury responsible for their period of work-related hospitalisation were generally minor. The proportions of hospitalisations for a *Fracture*, the most common type of injury, were similar for both sexes (27% of males and 30% of females), while a larger proportion of hospitalised male workers (19%) had experienced an *Open wound* than hospitalised female workers (12%). In addition, the proportion of hospitalised male workers who had experienced an *Amputation* was around twice that of hospitalised female workers: 5% of male work-related hospitalisations compared with 2.5% of female hospitalisations.

Overall, 41% of hospitalised male workers and nearly one-quarter (24%) of hospitalised female workers had sustained a *Wrist & hand* injury. This difference most likely reflects broad differences in the types of tasks that are undertaken by men and women in the workforce. In particular, men are more likely than women to use tools or machinery that have the potential to exert large forces directly or indirectly to the hand and wrist.

***Table 3*** **Work-related hospitalisations July 2006 to June 2009: percentage of hospitalisations by type of injury and bodily location**

| Type of injury and bodily location | Percentage of work-related hospitalisations | | |
|---|---|---|---|
| | Males | Females | Total |
| Fracture | 27.0% | 29.9% | 27.4% |
| *Wrist & hand* | *9.9%* | *4.6%* | *9.1%* |
| *Knee & lower leg* | *4.3%* | *6.5%* | *4.6%* |
| *Elbow & forearm* | *3.5%* | *9.4%* | *4.4%* |
| *Trunk* | *2.8%* | *2.4%* | *2.8%* |
| *Ankle & foot* | *2.2%* | *1.3%* | *2.1%* |
| *Head (excluding eye)* | *2.0%* | *1.8%* | *1.9%* |
| *Shoulder & arms* | *1.2%* | *2.4%* | *1.4%* |
| Open wound | 19.4% | 11.9% | 18.3% |
| *Wrist & hand* | *11.9%* | *7.6%* | *11.3%* |
| *Head (excluding eye)* | *2.3%* | *1.7%* | *2.2%* |
| *Knee & lower leg* | *2.0%* | *0.9%* | *1.9%* |
| *Elbow & forearm* | *1.1%* | *0.6%* | *1.1%* |
| *Ankle & foot* | *0.7%* | *0.5%* | *0.7%* |
| Muscle & tendon | 12.8% | 10.0% | 12.4% |
| *Wrist & hand* | *6.3%* | *2.7%* | *5.8%* |
| *Shoulder & arms* | *3.1%* | *4.5%* | *3.3%* |
| *Elbow & forearm* | *1.6%* | *0.7%* | *1.4%* |
| *Knee & lower leg* | *0.8%* | *0.8%* | *0.8%* |
| Dislocation | 5.2% | 7.7% | 5.5% |
| *Knee & lower leg* | *3.2%* | *4.8%* | *3.4%* |
| *Shoulder & arms* | *0.8%* | *0.7%* | *0.8%* |
| Amputation | 5.4% | 2.6% | 5.0% |
| *Wrist & hand* | *5.3%* | *2.5%* | *4.9%* |
| Sprain & strain | 3.8% | 7.1% | 4.2% |
| *Knee & lower leg* | *1.5%* | *2.2%* | *1.6%* |
| *Shoulder & arms* | *0.7%* | *1.0%* | *0.7%* |
| *Trunk* | *0.6%* | *1.4%* | *0.7%* |
| Nerve & spinal cord | 3.6% | 2.7% | 3.5% |
| *Wrist & hand* | *2.9%* | *2.3%* | *2.8%* |
| Superficial | 3.2% | 3.6% | 3.3% |
| *Wrist & hand* | *0.8%* | *0.6%* | *0.8%* |
| *Trunk* | *0.7%* | *0.9%* | *0.7%* |
| Burn & corrosion | 2.8% | 3.0% | 2.8% |
| Intra-cranial — head (excluding eye) | 2.2% | 3.5% | 2.4% |
| Blood vessel | 1.9% | 0.9% | 1.8% |
| *Wrist & hand* | *1.5%* | *0.8%* | *1.4%* |
| Poison, toxic effect & bite | 1.5% | 2.2% | 1.6% |
| Eye injury | 1.8% | 0.5% | 1.6% |
| Crush injury | 1.2% | 0.6% | 1.1% |
| *Wrist & hand* | *0.9%* | *0.5%* | *0.9%* |
| Internal organ | 0.9% | 0.7% | 0.9% |
| Electrical injury | 0.8% | 0.9% | 0.8% |
| Foreign body | 0.1% | 0.1% | 0.1% |
| Other injury | 6.3% | 12.0% | 7.1% |
| **Total** | **100%** | **100%** | **100%** |
| **Work-related hospitalisations July 2006 to June 2009** | **62 900** | **10 500** | **73 400** |

Note: Detailed bodily location categories are only shown to approximately 1% overall representation and thus exclude smaller location categories. Consequently these categories do not necessarily sum to the percentage shown for the type of injury category.

# Length of stay in hospital

In addition to details of the type and cause of injury, the AIHW hospitalisations data includes a record of how many days the patient stayed in hospital. The period of hospitalisation can be considered a proxy measure of the severity of an injury.

The average stay in hospital for a work-related injury was 2.3 days

Overall around 70% of work-related hospitalisations involved only 1 day in hospital, while 1.9% extended to 15 days or more. The average length of stay for a work-related hospitalisation was 2.3 days. As might be expected the length of hospitalisation varied considerably depending on the type of injury sustained by the worker.

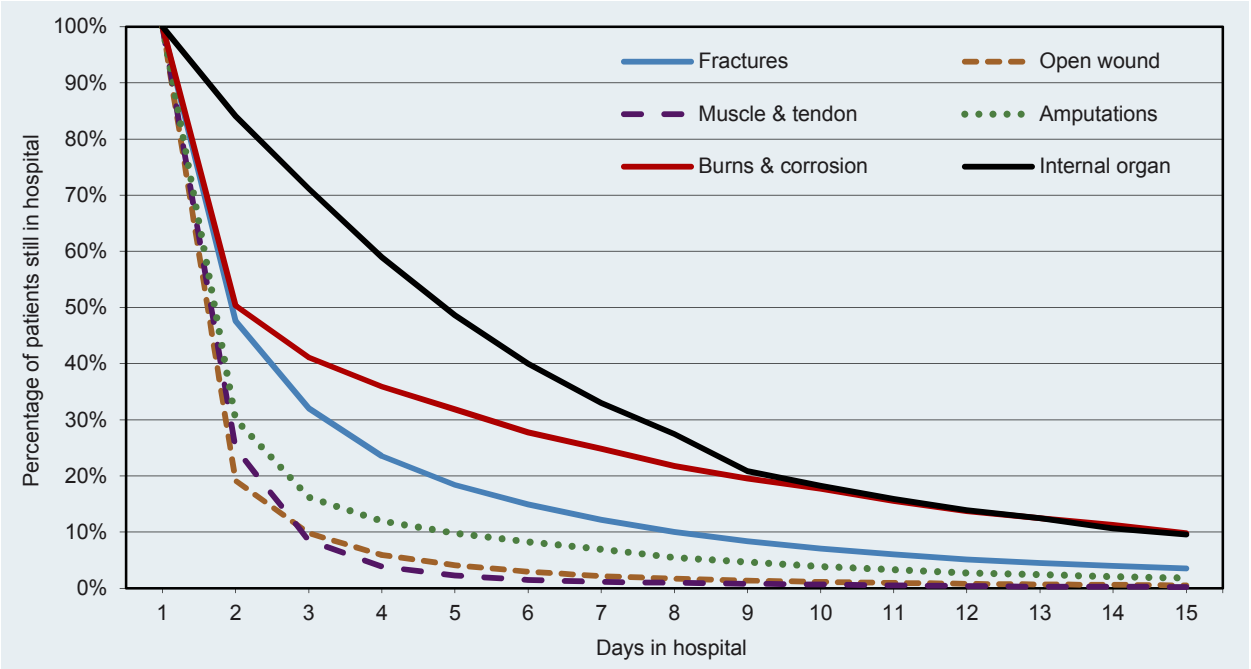
The length of stay depended on the type of injury

Figure 5 shows the percentage of patients still in hospital after a specified number of days for six selected types of injury. Although representing only about 1% of work-related hospitalisations, injuries involving *Internal organ* tended to involve the most time in hospital, with about half of these hospitalisations involving 5 or more days in hospital.

About half the patients hospitalised for a work-related injury involving *Burns & corrosion* (2.8% of all work-related hospitalisations) were hospitalised for 2 or more days. In addition, the graph shows that for 10% of those patients, the period of hospitalisation was 15 days or more.

Work-related hospitalisations for injuries involving *Fractures* (representing slightly over one-quarter of all work-related hospitalisations) fell between the distributional extremes: with 48% of hospitalisations involving 2 or more days and 10% involving 8 or more days.

***Figure 5*** **Work-related hospitalisations June 2006 to July 2009: percentage of patients still in hospital by days of hospitalisation for selected types of injury**



Injuries related to the *Internal organs* resulted in the highest average length of stay in hospital: 6.5 days

Table 4 shows the average number of days spent in hospital by the type of injury the worker sustained. The highest average of 6.5 days was recorded for injuries assigned to *Internal organ*: though as Table 3 indicates, such injuries were responsible for a small percentage (0.9%) of all work-related hospitalisations. The next most severe type of injury based on time spent in hospital was *Burn & corrosion*, with an average stay of 5.1 days. Other types of injury that involved hospitalisation longer than the overall average of 2.3 days were *Intracranial* and *Facture*: 3.7 and 3.3 days respectively.

***Table 4*** **Work-related hospitalisations July 2006 to June 2009: average number of days spent in hospital by sex by type of injury**

| | Average number of days in hospital | | |
|---|---|---|---|
| Type of injury | Males | Females | Total |
| Internal organ | 6.5 | 6.3 | 6.5 |
| Burn & corrosion | 5.2 | 4.1 | 5.1 |
| Intracranial | 3.9 | 3.0 | 3.7 |
| Fracture | 3.3 | 3.2 | 3.3 |
| Blood vessel | 2.3 | 2.7 | 2.3 |
| Amputation | 2.3 | 2.3 | 2.3 |
| Eye injury | 1.9 | 2.6 | 2.0 |
| Nerve & spinal cord | 1.8 | 1.7 | 1.8 |
| Crush injury | 1.7 | 2.2 | 1.7 |
| Superficial | 1.6 | 1.8 | 1.7 |
| Open wound | 1.5 | 1.6 | 1.6 |
| Dislocation | 1.5 | 1.6 | 1.5 |
| Muscle & tendon | 1.5 | 1.5 | 1.5 |
| Sprain & strain | 1.4 | 1.6 | 1.5 |
| Poison, toxic effect & bite | 1.4 | 1.3 | 1.4 |
| Foreign body | 1.1 | 2.0 | 1.3 |
| Electrical injury | 1.2 | 1.0 | 1.1 |
| **Total** | **2.3** | **2.3** | **2.3** |

Differences between males and females in the length of stay in hospital were minor

Table 4 also shows that both males and females who were hospitalised for a work-related injury spent on average 2.3 days in hospital. This similarity between the sexes is also found when looking at the average length of stay for most broad types of injury.

# Age and sex profile of hospitalised workers

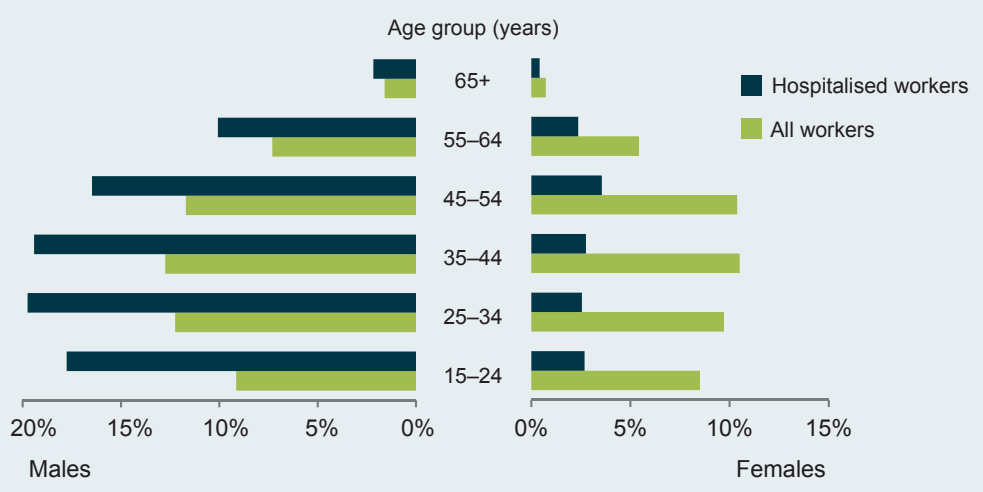
Figure 6 shows the age and sex profile of both workers who were hospitalised because of a work-related injury and all workers (the population at risk of sustaining a work-related injury). The proportional difference between these two profiles shows the same pattern that would be seen if incidence rates (hospitalisations per number of workers) were calculated.

Overall, hospitalised male workers were over-represented and hospitalised females workers were under-represented

Comparison of the two profiles clearly shows male workers were over-represented among work-related hospitalisations in all age groups while female workers were under-represented among work-related hospitalisations in all age groups.

Young male workers aged 15–24 years represented 9% of all workers and 18% of hospitalised workers and were therefore the most likely to have sustained a work-related injury resulting in hospitalisation. Conversely, female workers aged 35–44 years represented 11% of all workers and 2.8% of hospitalised workers and were therefore the least likely to have sustained a work-related injury resulting in hospitalisation.

***Figure 6*** **Hospitalised workers and all workers[a] June 2006 to July 2009: age and sex profile[b]**




a ABS Labour Force data for Employed people (6291.0.55.003 — datacube ST E05_Aug94_ANZSIC06).
b The number of people in each age/sex grouping is expressed as a percentage of the whole group.

Data for the two-year period July 2002 to June 2004 (ASCC, 2007) shows a very similar relationship to that shown in Figure 6. This consistent pattern undoubtedly reflects differences in the types of work undertaken by men and women in the Australian workforce. Some of these are highlighted in more detail in the Industry sections of this report.

***Figure 7*** **Work-related hospitalisations July 2006 to June 2009: cause of injury by age group for males**

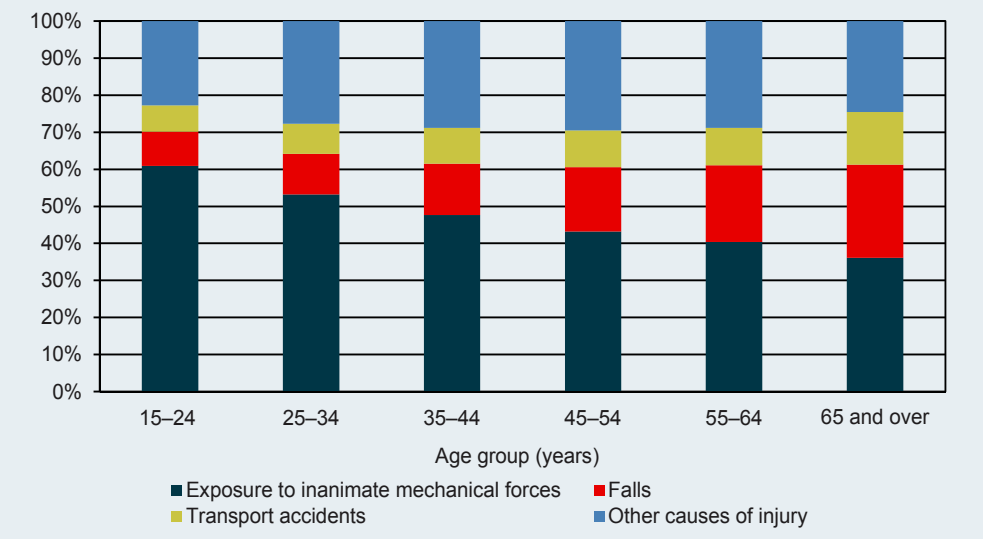
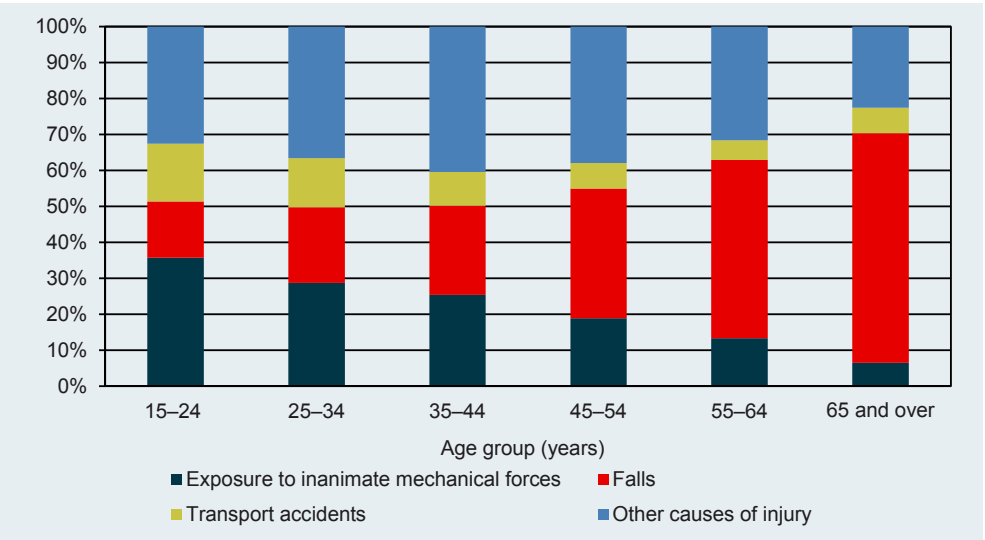



Figure 7 shows the percentage of hospitalisations of male workers that resulted from the three main broad causes of injury for each age group: *Exposure to inanimate mechanical forces*, *Falls* and *Transport accidents*. Figure 8 shows the same information for hospitalised female workers.

A greater proportion of older workers than younger workers had injured themselves by falling

The graphs show that as the age of the hospitalised worker increased *Falls* progressively became a more common cause of their injury while *Exposure to inanimate mechanical forces* became less common. For males that were hospitalised for a work-related injury, the proportion hospitalised as a result of *Falls* increased from 9% among those aged 15–24 years to 25% among those aged 65 years and over. For females that were hospitalised the proportion of injuries caused by *Falls* was 16% among those aged 15–24 years and 64% among those aged 65 years and over.

***Figure 8*** **Work-related hospitalisations July 2006 to June 2009: cause of injury by age group for females**



# Industry sector of work-related hospitalisations

Table 5 shows the distribution of work-related hospitalisations by the industry sector recorded in the patient's record. Because of the high proportion (39%) of work-related hospitalisations for which no industry sector was specified, the patterns reported here may be different to those that would have been observed if the industry sector had been recorded for all patients.

Construction was the most commonly specified industry sector of hospitalised workers

Construction (19% of work-related hospitalisations with a specified industry) was the most common industry sector of patients admitted to hospital with a work-related injury. This sector also had the most male-dominated sex distribution (83 male hospitalisations to 1 female hospitalisation): accounting for 21% of male work-related hospitalisations with a specified industry and 1.1% of female work-related hospitalisations with a specified industry.

The other most commonly specified industry sectors were Agriculture, forestry & fishing (14%); Manufacturing (11%); and Transport & storage (8%). These three industries, along with the Construction and the Health & community services sector, were considered 'priority industries' in the *National OHS Strategy 2002–2012* because of their high incidence rates of injury and disease and/or large number of workers.

Work-related hospitalisations where the industry was specified are examined in more detail in Part B of this report.

***Table 5*** **Work-related hospitalisations July 2006 to June 2009: percentage of hospitalisations by specified industry sector**

| Industry sector | Percentage of work-related hospitalisations | | | Percentage of employed in sector [a] |
|---|---|---|---|---|
| | Males | Females | Total | |
| Construction | 21.5% | 1.1% | 18.6% | 9.1% |
| Agriculture, forestry & fishing | 14.5% | 12.6% | 14.2% | 3.4% |
| Manufacturing | 11.4% | 5.5% | 10.5% | 10.2% |
| Transport & storage | 9.3% | 2.2% | 8.3% | 4.7% |
| Wholesale & retail trade | 6.9% | 16.2% | 8.2% | 19.0% |
| Mining | 5.1% | 1.4% | 4.6% | 1.4% |
| Health services | 1.0% | 16.0% | 3.1% | 10.6% |
| Government administration & defence | 1.9% | 3.7% | 2.1% | 4.7% |
| Other specified work for income | 28.4% | 41.3% | 30.3% | na |
| **Total** | **100%** | **100%** | **100%** | na |
| **Work-related hospitalisations with specified industry** | **38,400** | **6,400** | **44,800** | na |
| **Work-related hospitalisations July 2006 to June 2009** | **62 900** | **10 500** | **73 400** | na |

a ABS Labour Force data for Employed people (6291.0.55.003 — datacube ST E05_Aug94_ANZSIC06).

Although the high proportion of hospitalisations for which no industry sector was specified precludes the calculation of accurate rates of hospitalisation for the industries that were specified, the over-representation of hospitalised workers in comparison to the percentage of employed people they represent is indicative of relatively high incidence rates (Table 5). For example, among hospitalised workers that specified their industry, 14% reported their sector as Agriculture, forestry & fishing whereas only 3.4% of employed people worked in that sector.

# Part B

## Industry sectors

work-related hospitalisations

July 2006 to June 2009

# Construction


Over the three-year period July 2006 to June 2009 the Australian Construction industry employed on average 972 000 workers (9% of the Australian workforce). During this period workers in the industry were predominately male in the ratio of 7.4 male workers for each female worker (ABS 2012).

The Construction industry is recognised as hazardous since workers are regularly exposed to a variety of hazards including working at height on ladders and scaffolding; working with and near to heavy plant, such as cranes and excavators; using powered and non-powered tools; and handling heavy materials.

The hazardous nature of construction work results in very high rates of death and injury among workers. Over the period 2003–04 to 2010–11 between 28 and 50 construction workers died annually, resulting in annual fatality rates of between 3.4 and 5.3 fatalities per 100 000 workers (Safe Work Australia 2012a).

Workers' compensation data show there were 18.7 serious workers' compensation claims per 1000 Construction employees in 2010–11p. This was the fourth highest industry rate and nearly double the all industries rate of 12.2 serious claims per 1000 employees. However, compensation data also identifies an improvement in work health and safety in the Construction industry sector with a 36% decrease in the incidence rate of serious claims between 2000–01 and 2009–10 (Safe Work Australia 2012b).

Over the three-year period July 2006 to June 2009, there were 8300 work-related hospitalisations where the industry sector of the worker was recorded as Construction. However, since industry sector was not recorded for 39% of hospitalisations for a work-related injury, the number of hospitalisations recorded against the Construction industry may be understated.

This section examines the circumstances of the hospitalisation and the characteristics of people that were known to be hospitalised for an injury sustained while working for income in the Construction sector during the three-year period July 2006 to June 2009. For brevity this group is referred to as 'Construction hospitalisations' in the following discussion.

# Causes of injury

Table 6 shows the broad causes of injury among Construction hospitalisations and the more common underlying categories. Nearly two-thirds (62%) of Construction hospitalisations were the result of *Exposure to inanimate mechanical forces*: a broad group covering a variety of causes. The two most common underlying categories, *Contact with other & unspecified machinery* and *Contact with other powered hand tools and household machinery*, were responsible for 15% and 10% of all Construction hospitalisations respectively. *Contact with other & unspecified machinery* can be further disaggregated to show that 8% of Construction hospitalisations were the result of *Contact with woodworking and forming machinery*; 2.8% the result of *Contact with metalworking machinery*; and 1.3% *Contact with earthmoving scraping and other excavating machinery*.

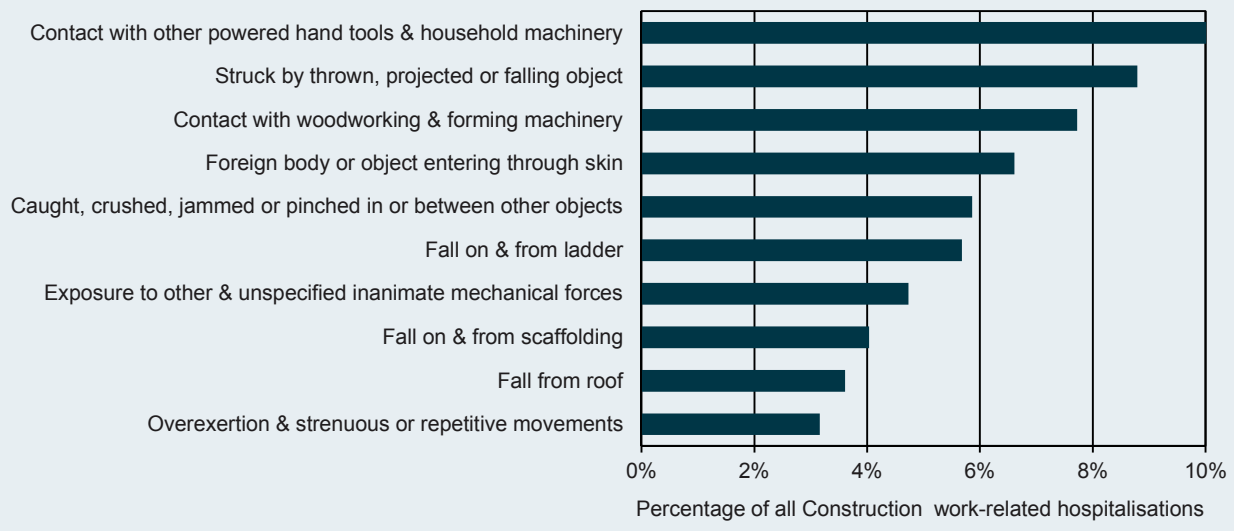
*Falls* alone were responsible for one-quarter of all work-related Construction hospitalisations

Table 6 also shows that *Falls* alone were responsible for close to one-quarter (24%) of Construction hospitalisations. The underlying categories provide a greater level of detail and show that 8% of Construction hospitalisations were the result of a *Fall from, out of or through building or structure*: most commonly involving a fall from or through a roof (4.6% of Construction hospitalisations when combined); 6% were the result of a *Fall on & from ladder*; and 4% the result of a *Fall on & from scaffolding*.

Figure 9 shows the ten most commonly specified causes of injury among construction workers hospitalised for a work-related injury. The most commonly specified cause, accounting for 10% of Construction hospitalisations, was *Contact with other powered hand tools and household machinery*.

Other commonly specified causes included being *Struck by thrown, projected or falling object* (9% of Construction hospitalisations); *Contact with woodworking & forming machinery* (8%); *Foreign body or object entering through skin* (7%); and being *Caught, crushed, jammed or pinched in or between other* [than a door] *objects* (6%).

***Figure 9*** **Construction work-related hospitalisations June 2006 to July 2009: percentage of hospitalisations by the most commonly specified causes of injury**




Note: These ten causes of injury together accounted for a total of 60% of Construction work-related hospitalisations

***Table 6*** **Construction work-related hospitalisations July 2006 to June 2009: percentage of hospitalisations by cause of injury and sex**

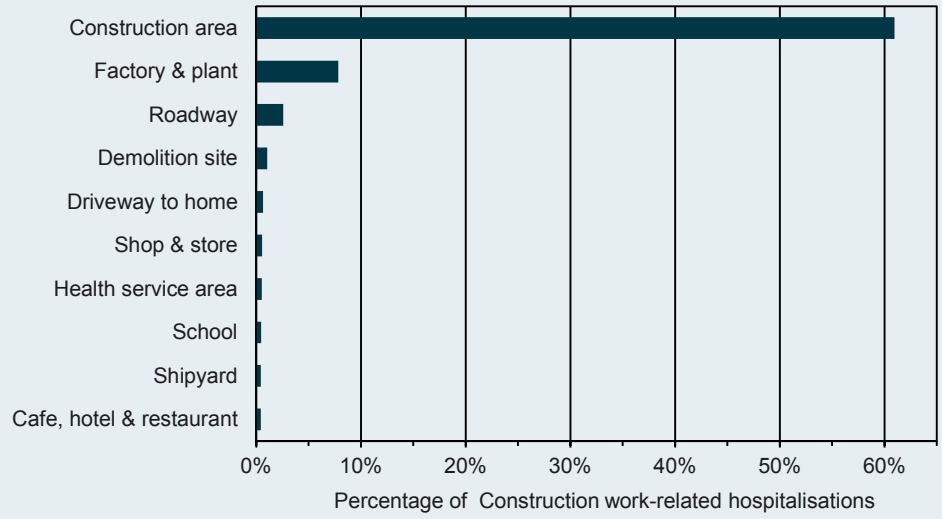
| | Percentage of Construction work-related hospitalisations | | |
|---|---|---|---|
| Cause of injury | Males | Females | Total |
| Exposure to inanimate mechanical forces | 61.9% | 56.3% | 61.9% |
| *Contact with other & unspecified machinery* | *15.0%* | *21.1%* | *15.1%* |
| *Contact with woodworking & forming machinery* | *7.7%* | *9.9%* | *7.7%* |
| *Contact with other specified machinery* | *2.8%* | *2.8%* | *2.8%* |
| *Contact with metalworking machinery* | *2.6%* | *1.4%* | *2.6%* |
| *Contact with earthmoving, scraping & other excavating machinery* | *1.3%* | *4.2%* | *1.3%* |
| *Contact with other powered hand tools & household machinery* | *10.0%* | *4.2%* | *10.0%* |
| *Struck by thrown, projected or falling object* | *8.8%* | *7.0%* | *8.8%* |
| *Foreign body or object entering through skin* | *6.6%* | *5.6%* | *6.6%* |
| *Caught, crushed, jammed or pinched in or between objects* | *6.0%* | *7.0%* | *6.0%* |
| *Exposure to other & unspecified inanimate mechanical forces* | *4.7%* | *1.4%* | *4.7%* |
| *Striking against or struck by other objects* | *2.5%* | *0.0%* | *2.5%* |
| *Contact with non-powered hand tool* | *2.5%* | *1.4%* | *2.5%* |
| *Foreign body entering into or through eye or natural orifice* | *1.4%* | *1.4%* | *1.4%* |
| *Contact with sharp glass* | *1.3%* | *4.2%* | *1.4%* |
| *Contact with knife, sword or dagger* | *1.2%* | *1.4%* | *1.2%* |
| *Contact with lifting & transmission devices, nec.* | *1.2%* | *1.4%* | *1.2%* |
| Falls | 24.2% | 29.6% | 24.2% |
| *Fall from, out of or through building or structure* | *7.7%* | *5.6%* | *7.7%* |
| *Fall from roof* | *3.6%* | *1.4%* | *3.6%* |
| *Fall from, out of or through other specified building or structure* | *1.8%* | *2.8%* | *1.8%* |
| *Fall through roof* | *1.0%* | *1.4%* | *1.0%* |
| *Fall from, out of or through unspecified building or structure* | *0.7%* | *0.0%* | *0.6%* |
| *Fall on & from ladder* | *5.7%* | *7.0%* | *5.7%* |
| *Fall on & from scaffolding* | *4.0%* | *2.8%* | *4.0%* |
| *Other fall from one level to another* | *2.6%* | *2.8%* | *2.6%* |
| *Fall on same level from slipping, tripping & stumbling* | *1.7%* | *4.2%* | *1.8%* |
| *Fall on same level from tripping* | *1.0%* | *1.4%* | *1.0%* |
| *Fall on same level from slipping* | *0.7%* | *1.4%* | *0.7%* |
| *Unspecified fall* | *0.9%* | *0.0%* | *0.9%* |
| *Other fall on same level* | *0.8%* | *0.0%* | *0.8%* |
| *Fall on & from stairs & steps* | *0.6%* | *5.6%* | *0.6%* |
| Over-exertion, travel & privation | 3.2% | 2.8% | 3.2% |
| *Over-exertion & strenuous or repetitive movements* | *3.2%* | *2.8%* | *3.2%* |
| Transport accidents | 2.7% | 7.0% | 2.7% |
| Exposure to electric current, radiation & extreme ambient air temperature & pressure | 1.4% | 1.4% | 1.4% |
| Other causes of injury | 6.6% | 2.9% | 6.6% |
| Total | **100%** | **100%** | **100%** |
| **Construction work-related hospitalisations July 2006 to June 2009** | **8 300** | **100** | **8 300** |

Note: Detailed sub-categories are only shown to approximately 0.5% overall representation so the sub-categories do not necessarily sum to the percentage shown at the broad level.

# Place of occurrence of injury

Most construction workers that required hospitalisation were injured at an *Industrial and construction area* (84%). At a more detailed level Figure 10 shows that a *Construction area* was the most commonly specified (61%) place of occurrence of injury for patients hospitalised for a work-related injury within the Construction sector. The next most commonly specified places were *Factory & plant (8%)* and *Roadway (2.6%).*

***Figure 10*** **Construction work-related hospitalisations June 2006 to July 2009[a]: percentage of hospitalisations by the most commonly specified[b] places of occurrence of injury**




a Where the place of occurrence was specified.
b Shows only specific categories, not other specified and unspecified categories.

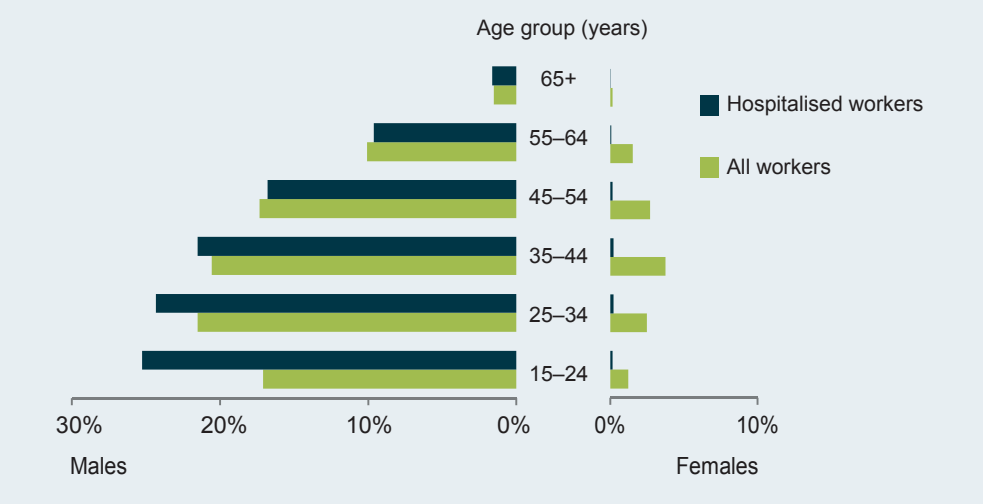
Note: These ten specific places of occurrence together accounted for a total of 76% of Construction work-related hospitalisations for which place of occurrence was specified.

No place of occurrence was recorded for just over one-third (35%) of hospitalisations for a work-related injury within the Construction sector. This high proportion of missing information means the pattern reported here may be different to the pattern that may have been observed if the place of occurrence had been recorded for all patients.

Because the number of females hospitalised for a work-related injury in the Construction sector was small (100) only the proportion in the broad occurrence of injury category *Industrial and construction area* can be usefully compared to the proportion for males. For both males and females the large majority (84% for males and 69% for females) were hospitalised for an injury sustained at an *Industrial and construction area*.

# Age and sex profile of hospitalised workers

***Figure 11*** **Construction work-related hospitalisations and all construction workers[a] June 2006 to July 2009: age and sex profile[b]**




a ABS Labour Force data for Employed people (6291.0.55.003 — datacube ST E05_Aug94_ANZSIC06).

b The number of people in each age/sex grouping is expressed as a percentage of the whole group.

Young male construction workers were over-represented among hospitalised construction workers

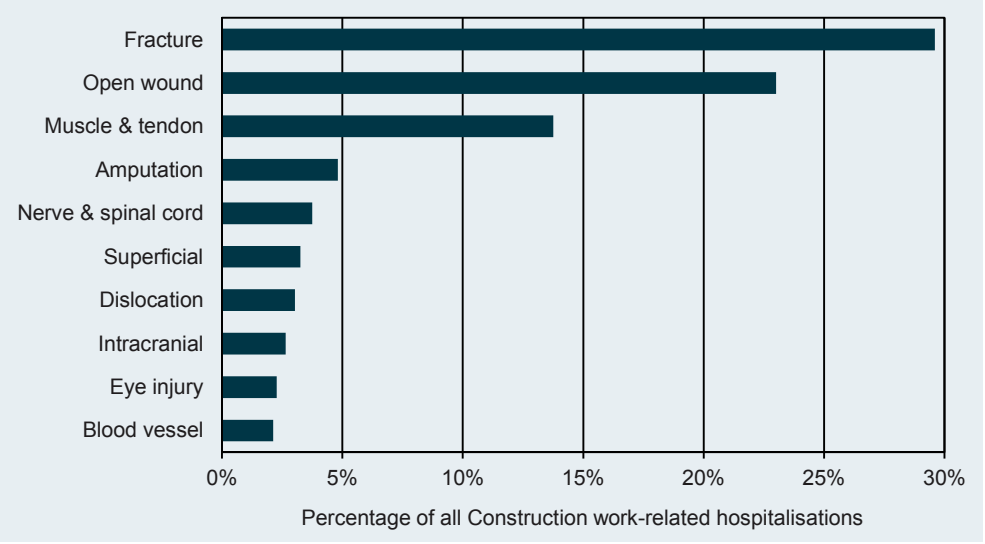
The age/sex profile shown in Figure 11 illustrates the high proportion (88%) of males employed in the Construction sector which is then reflected in the high proportion (99%) of males among workers hospitalised for a work-related injury in the Construction sector. Comparison of the proportions of hospitalised workers in each age/sex group with the proportion of construction workers within each age/sex group highlights that young males, particularly those aged 15–24 years, were over-represented among hospitalised construction workers. Male workers aged 15–24 years accounted for one-quarter (25%) of all Construction hospitalisations but only represented 17% of all construction workers. Similarly, male workers aged 25–34 years were also over-represented, but to a lesser degree — they accounted for almost one-quarter (24%) of Construction hospitalisations but represented 22% of all construction workers.

Female construction workers were under -represented

As previously discussed, the number of female construction workers hospitalised for a work-related injury was small. Figure 11 shows that for all age groups women were considerably under-represented among Construction hospitalisations. This difference between male and female construction workers most likely reflects that women who worked in the Construction sector were probably more likely to work in administrative or sales jobs than on construction sites.

# Type of injury and bodily location

***Figure 12*** **Construction work-related hospitalisations June 2006 to July 2009: percentage of work-related hospitalisations by the most commonly specified types of injury**



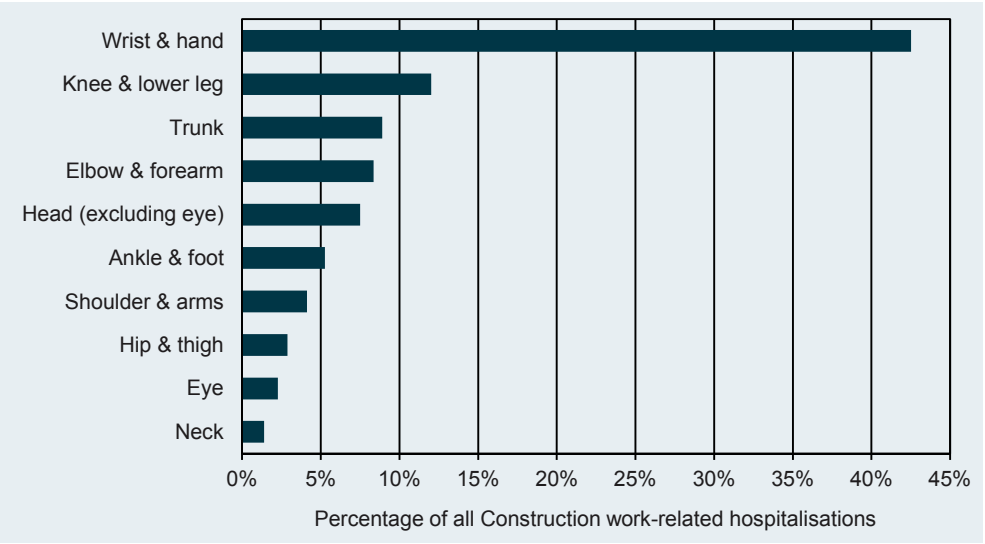

Note: These ten most common types of injury together accounted for a total of 88% of Construction work-related hospitalisations.

*Fractures* accounted for 30% of all hospitalisations of construction workers

Figure 12 shows the most commonly specified types of injury sustained by construction workers hospitalised because of a work-related injury. *Fractures* were responsible for 30% of Construction hospitalisations over the period June 2006 to July 2009. Other common types of injury were *Open wound* (23%) and injuries to *Muscle & tendons* (14%).

The proportions of construction workers hospitalised for *Fractures* and *Open wounds* was slightly higher than those for all work-related hospitalisations: 27% and 18% respectively (see Figure 3 p.8).

***Figure 13*** **Construction work-related hospitalisations June 2006 to July 2009: percentage of work-related hospitalisations by the most common bodily locations of injury**




Note: These ten most common bodily locations of injury together accounted for a total of 95% of Construction work-related hospitalisations

## *Table 7* Construction work-related hospitalisations July 2006 to June 2009: percentage of hospitalisations by type of injury and bodily location

| | Percentage of Construction work-related hospitalisations | | |
|---|---|---|---|
| Type of injury and bodily location | Males | Females | Total |
| Fracture | 29.5% | 40.8% | 29.6% |
| *Wrist & hand* | *9.7%* | *14.1%* | *9.7%* |
| *Knee & lower leg* | *4.6%* | *5.6%* | *4.6%* |
| *Trunk* | *4.4%* | *5.6%* | *4.4%* |
| *Elbow & forearm* | *4.1%* | *7.0%* | *4.1%* |
| *Ankle & foot* | *3.0%* | *1.4%* | *3.0%* |
| *Head (excluding eye)* | *1.8%* | *1.4%* | *1.8%* |
| *Shoulder & arms* | *1.0%* | *4.2%* | *1.1%* |
| *Hip & thigh* | *0.7%* | *1.4%* | *0.7%* |
| Open wound | 23.1% | 15.5% | 23.0% |
| *Wrist & hand* | *13.3%* | *11.3%* | *13.3%* |
| *Knee & lower leg* | *3.6%* | *2.8%* | *3.6%* |
| *Head (excluding eye)* | *1.9%* | *0.0%* | *1.9%* |
| *Elbow & forearm* | *1.3%* | *1.4%* | *1.3%* |
| *Ankle & foot* | *1.1%* | *0.0%* | *1.1%* |
| *Hip & thigh* | *1.1%* | *0.0%* | *1.1%* |
| Muscle & tendon | 13.8% | 7.0% | 13.8% |
| *Wrist & hand* | *8.1%* | *4.2%* | *8.1%* |
| *Elbow & forearm* | *1.9%* | *0.0%* | *1.9%* |
| *Shoulder & arms* | *1.5%* | *1.4%* | *1.5%* |
| *Knee & lower leg* | *0.8%* | *1.4%* | *0.8%* |
| *Hip & thigh* | *0.6%* | *0.0%* | *0.6%* |
| Amputation | 4.8% | 4.2% | 4.8% |
| *Wrist & hand* | *4.6%* | *4.2%* | *4.6%* |
| Nerve & spinal cord | 3.8% | 1.4% | 3.7% |
| *Wrist & hand* | *2.9%* | *1.4%* | *2.9%* |
| Superficial | 3.2% | 4.2% | 3.3% |
| *Wrist & hand* | *1.0%* | *0.0%* | *1.0%* |
| *Trunk* | *0.7%* | *0.0%* | *0.7%* |
| Dislocation | 3.0% | 8.5% | 3.0% |
| *Knee & lower leg* | *1.5%* | *5.6%* | *1.5%* |
| *Shoulder & arms* | *0.7%* | *1.4%* | *0.7%* |
| Intracranial | 2.7% | 1.4% | 2.6% |
| *Head (excluding eye)* | *2.7%* | *1.4%* | *2.6%* |
| Eye injury | 2.3% | 2.8% | 2.3% |
| Blood vessel | 2.1% | 1.4% | 2.1% |
| *Wrist & hand* | *1.5%* | *1.4%* | *1.5%* |
| Burn & corrosion | 1.7% | 0.0% | 1.7% |
| Internal organ | 1.0% | 1.4% | 1.0% |
| Crush injury | 1.0% | 0.0% | 1.0% |
| *Wrist & hand* | *0.7%* | *0.0%* | *0.7%* |
| Electrical injury | 0.9% | 0.0% | 0.9% |
| Poison, toxic effect & bite | 0.6% | 0.0% | 0.6% |
| Other injury | 4.6% | 7.0% | 4.6% |
| **Total** | **100%** | **100%** | **100%** |
| **Construction work-related hospitalisations July 2006 to June 2009** | **8 300** | **100** | **8 300** |

Note: Detailed bodily location categories are only shown to approximately 0.5% overall representation and exclude smaller location categories. Consequently these categories do not necessarily sum to the percentage shown for the type of injury category.

*Wrist & hand* injuries accounted for 43% of Construction hospitalisations

Figure 13 shows that the most common bodily location of injury was the *Wrist & hand* (43% of Construction hospitalisations compared with 38% of all work-related hospitalisations). This was the second highest proportion of *Wrist & hand* injuries among the specified industries: the highest proportion (59%) was found among hospitalisations of manufacturing workers.

Table 7 shows a breakdown of the type of injury by the bodily location of the injury. For nearly all types of injury the *Wrist & hand* was the most common bodily location. Although the table shows both type and location categories as a percentage of all Construction hospitalisations, the bodily location can easily be recalculated as a percentage of the types of injury. On that basis the table shows one-third (33%) of *Fractures* were to the *Wrist & hand* (of which nearly two-thirds (62%) were fractures of the finger/s). Over half (58%) of *Open wound* injuries were to the *Wrist & hand* (of which nearly three-quarters (71%) were wounds to the finger/s). A similar proportion (59%) of *Muscle & tendon injuries* were to the *Wrist & hand*.

Injuries involving *Amputation* were also nearly all (96%) to the *Wrist & hand*, of which just over two-thirds (65%) were for the amputation of a finger (complete or partial) with a further 12% for two or more fingers (complete or partial).

# Agriculture, forestry & fishing

Over the three-year period July 2006 to June 2009 the Australian Agriculture, forestry & fishing industry employed on average 356 000 workers (3% of the Australian workforce). During this period the sex ratio of workers in the industry was 2.2 male workers for each female worker (ABS 2012).

The Agriculture, forestry & fishing industry is recognised as one of the most hazardous since workers are regularly exposed to hazards including working with and near heavy machinery, such as tractors and quad bikes and their attachments; using powered tools, such as chainsaws; handling heavy and bulky materials; and handling livestock.

The hazardous nature of Agriculture, forestry & fishing work results in very high rates of death and injury among workers. Over the period 2003–04 to 2010–11 between 42 and 79 Agriculture, forestry & fishing workers died annually, resulting in annual fatality rates of between 11.4 and 21.5 fatalities per 100 000 workers (Safe Work Australia 2012a).

Workers' compensation data show there were 21.1 serious workers' compensation claims per 1000 Agriculture, forestry & fishing employees in 2010–11p. This was the second highest industry rate and nearly double the all industries rate of 12.2 serious claims per 1000 employees. However, compensation data also identifies an improvement in work health and safety in the Agriculture, forestry & fishing industry sector with a 25% decrease in the incidence rate of serious claims between 2000–01 and 2009–10 (Safe Work Australia 2012b).

Over the three-year period July 2006 to June 2009, there were 6400 work-related hospitalisations where the industry sector of the worker was recorded as Agriculture, forestry & fishing. However, since industry sector was not recorded for 39% of hospitalisations for a work-related injury, the number of hospitalisations recorded against the Agriculture, forestry & fishing industry may be understated.

This section examines the circumstances of the hospitalisation and the characteristics of people that were known to be hospitalised for an injury sustained while working for income in the Agriculture, forestry & fishing sector during the three-year period July 2006 to June 2009. For brevity this group is referred to as 'Agriculture, forestry & fishing hospitalisations' in the following discussion.

## Causes of injury

Table 8 shows the broad causes of injury among Agriculture, forestry & fishing hospitalisations and the more common detailed underlying categories. At the broad level, 42% of Agriculture, forestry & fishing hospitalisations were the result of *Exposure to inanimate mechanical forces*: a category covering a wide variety of causes, the most common of which was *Caught, crushed, jammed or pinched in or between other* [than a door] *objects* (6% of Agriculture, forestry & fishing hospitalisations).

*Transport accidents*, accounting for just over one-fifth (21%) of Agriculture, forestry & fishing hospitalisations, was the second most common broad cause of injury. At a more detailed level, the table shows that 7% of Agriculture, forestry & fishing hospitalisations were for a *Motorcycle rider injured in transport accident*. The ICD-10-AM codes used to record the circumstances of traffic accidents in the hospitalisation data are extremely detailed and enable further disaggregation to identify riders who fell from off-road motorbikes (*Motorcycle rider injured in non-collision transport accident, driver, non-traffic accident, motorcycle designed primarily for off-road use* — 2.2% of Agriculture, forestry & fishing hospitalisations).

The most common single cause of injury was being *Bitten or struck by cattle*

A hazard particular to the Agriculture, forestry & fishing industry is the handling of livestock. Injuries related to handling livestock are recorded under the category *Exposure to animate mechanical forces*. Over the period July 2006 to June 2009 this cause of injury was responsible for 13% of Agriculture, forestry & fishing hospitalisations. The most common underlying category was being *Bitten or struck by cattle*: responsible for 7% of Agriculture, forestry & fishing hospitalisations or just over half (55%) of injuries due to *Exposure to animate mechanical forces*.

One-in-ten hospitalised females had fallen from a horse

Workers hospitalised for a work-related injury that occurred in the Agriculture, forestry & fishing industry were predominantly male (5570 males and 805 females). Comparison of the proportion of males and females at the broad level categories of cause of injury (Table 8) shows that a larger proportion of hospitalised females than males had been injured by *Exposure to animate mechanical forces*: 20% compared with 13% respectively. This was also the case for *Transport accidents*, with 28% of females compared with 20% of males. The underlying transport categories highlight that one-in-ten (10%) of the females hospitalised for a work-related injury had fallen from a horse.

Figure 14 shows the ten most common detailed causes of injury among agriculture, forestry & fishing workers hospitalised for a work-related injury. The most commonly specified cause accounting for 7% of Agriculture, forestry & fishing hospitalisations was being *Bitten or struck by cattle*.

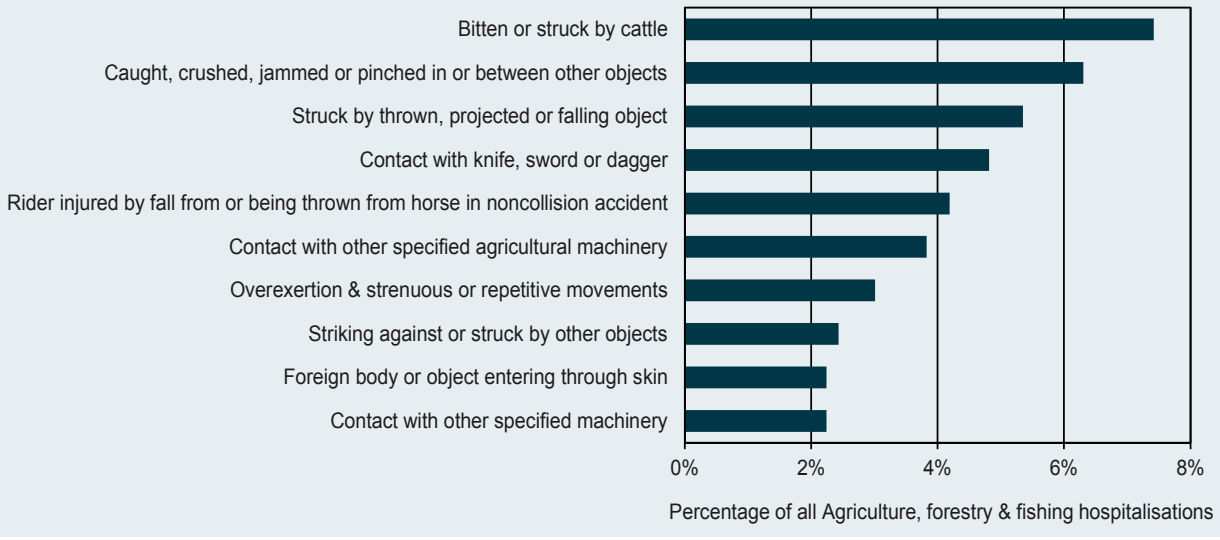
Other commonly specified causes included being *Caught, crushed, jammed or pinched in or between other* [than a door] *objects* (6% of Agriculture, forestry & fishing hospitalisations), *Struck by thrown, projected or falling object* (5%), and *Contact with knife, sword or dagger* (5%).

## *Table 8* Agriculture, forestry & fishing work-related hospitalisations July 2006 to June 2009: percentage of hospitalisations by cause of injury and sex

| | Percentage of Agriculture, forestry & fishing work-related hospitalisations | | |
|---|---|---|---|
| Cause of injury | Males | Females | Total |
| Exposure to inanimate mechanical forces | 44.5% | 25.8% | 42.1% |
| *Caught, crushed, jammed or pinched in or between other objects* | *6.5%* | *5.2%* | *6.3%* |
| *Struck by thrown, projected or falling object* | *5.6%* | *3.4%* | *5.3%* |
| *Contact with knife, sword or dagger* | *5.2%* | *2.1%* | *4.8%* |
| *Contact with other specified agricultural machinery* | *4.1%* | *2.1%* | *3.8%* |
| *Striking against or struck by other objects* | *2.5%* | *2.2%* | *2.4%* |
| *Contact with unspecified agricultural machinery* | *2.5%* | *1.1%* | *2.4%* |
| *Contact with other specified machinery* | *2.3%* | *1.7%* | *2.2%* |
| *Foreign body or object entering through skin* | *2.4%* | *1.5%* | *2.2%* |
| *Contact with other powered hand tools & household machinery* | *2.3%* | *0.9%* | *2.1%* |
| *Contact with nonpowered hand tool* | *1.9%* | *1.0%* | *1.8%* |
| *Exposure to other & unspecified inanimate mechanical forces.* | *1.7%* | *1.0%* | *1.6%* |
| Transport accidents | 20.3% | 28.3% | 21.3% |
| *Motorcycle rider injured in transport accident* | *6.8%* | *6.4%* | *6.7%* |
| *Motorcycle rider injured in non-collision transport accident, driver, non-traffic accident, motorcycle designed primarily for off-road use.* | *2.2%* | *2.2%* | *2.2%* |
| *Rider injured by fall from or being thrown from horse in non-collision accident* | *3.3%* | *10.3%* | *4.2%* |
| *Driver of all-terrain or other off-road motor vehicle injured in non-traffic accident, four-wheeled special all-terrain or other off-road motor vehicle* | *2.0%* | *2.1%* | *2.0%* |
| *Driver of special agricultural vehicle injured in non-traffic accident* | *1.7%* | *1.0%* | *1.6%* |
| Exposure to animate mechanical forces | 12.5% | 19.9% | 13.4% |
| *Bitten or struck by cattle* | *7.2%* | *8.7%* | *7.4%* |
| *Bitten or struck by horse* | *1.4%* | *5.6%* | *1.9%* |
| *Bitten or struck by sheep* | *1.0%* | *1.2%* | *1.0%* |
| Falls | 8.1% | 13.8% | 8.8% |
| *Fall on same level from slipping, tripping & stumbling* | *2.0%* | *4.0%* | *2.2%* |
| *Other fall from one level to another* | *2.2%* | *2.2%* | *2.2%* |
| *Fall on & from ladder* | *0.9%* | *2.5%* | *1.1%* |
| *Unspecified fall* | *0.8%* | *1.9%* | *0.9%* |
| Overexertion, travel & privation | 3.0% | 3.1% | 3.0% |
| Contact with venomous animals & plants | 2.7% | 2.1% | 2.7% |
| Accidental poisoning by & exposure to noxious substances | 1.5% | 1.2% | 1.5% |
| *Accidental poisoning by & exposure to pesticides* | *0.6%* | *0.5%* | *0.5%* |
| Exposure to electric current, radiation & extreme ambient air temperature & pressure | 1.2% | 0.4% | 1.1% |
| Other causes of injury | 6.0% | 5.0% | 5.9% |
| Total | **100%** | **100%** | **100%** |
| **Agriculture, forestry & fishing work-related hospitalisations July 2006 to June 2009** | **5 600** | **800** | **6 400** |

Note: Detailed sub-categories are generally only shown to approximately 1% overall representation so the sub-categories do not necessarily sum to the percentage shown at the broad level.

***Figure 14*** **Agriculture, forestry & fishing work-related hospitalisations June 2006 to July 2009: percentage of hospitalisations by the most commonly specified causes of injury**

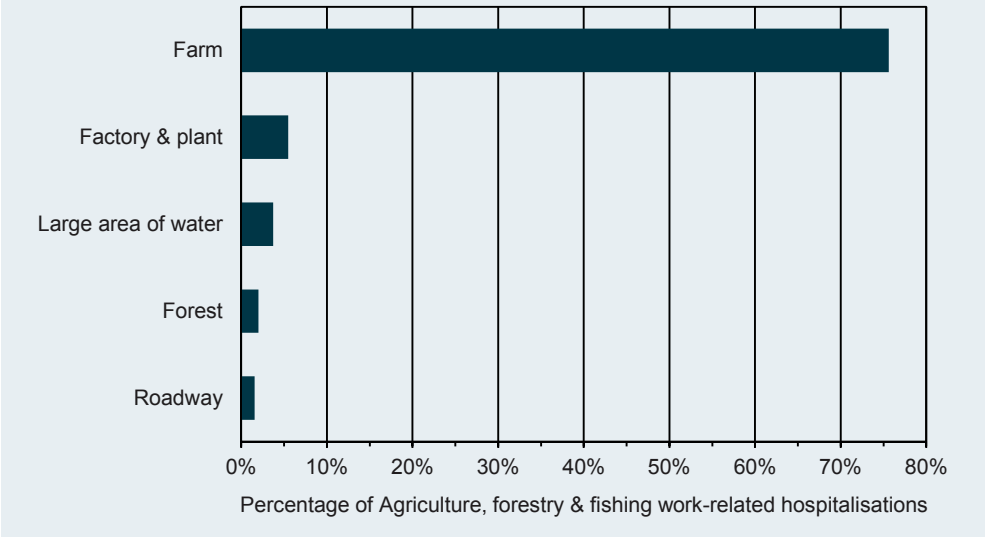



Note: These ten specified causes of injury together accounted for a total of 42% of Agriculture, forestry & fishing work-related hospitalisations.

# Place of occurrence of injury

A *Farm* was the most commonly specified (76%) place of occurrence of injury for patients hospitalised for a work-related injury within the Agriculture, forestry & fishing sector and who specified the place of occurrence. The next most commonly specified places of occurrence were *Factory & plant* (5%) and *Large area of water* (3.7%).

***Figure 15*** **Agriculture, forestry & fishing work-related hospitalisations June 2006 to July 2009[a]: percentage of hospitalisations by the most commonly specified[b] places of occurrence of injury**




a Where the place of occurrence was specified.
b Shows only specific categories, not other specified and unspecified categories.

Note: These five specific places of occurrence together accounted for a total of 88% of Agriculture, forestry & fishing work-related hospitalisations for which place of occurrence was specified.

No place of occurrence was recorded for 15% of hospitalisations for a work-related injury within the Agriculture, forestry & fishing sector. This missing information means the pattern reported here may be different to the pattern that may have been observed if the place of occurrence had been recorded for all patients.

## Age and sex profile of hospitalised workers

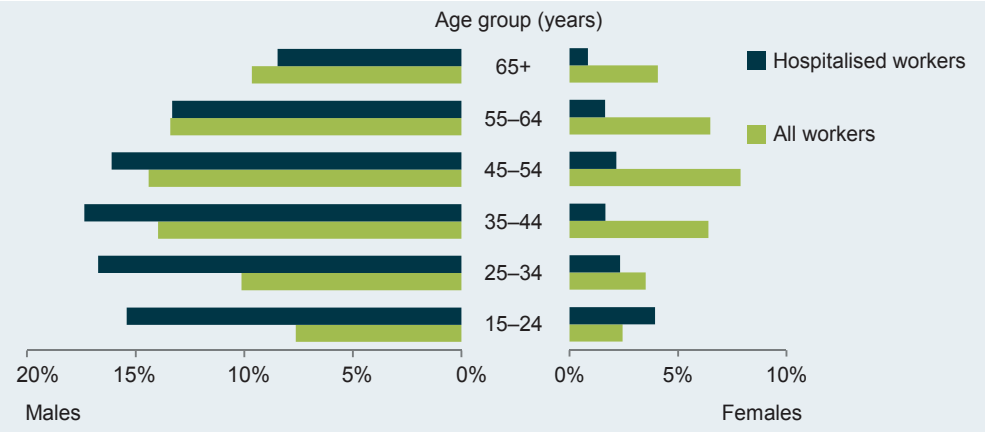
Figure 16 shows the age and sex profile for hospitalised workers in the Agriculture, forestry & fishing industry and for all workers employed in the industry. The Agriculture, forestry & fishing industry has the oldest age profile of all industry sectors. Over the period June 2006 to July 2009, one-third (34%) of workers employed in the sector were aged 55 years or older.

Younger males and females aged 15–24 years were over-represented

The age and sex profile shown in Figure 16 highlights that males younger than 55 years and female workers aged 15–24 years were over-represented in comparison to the age and sex structure of all workers in the Agriculture, forestry & fishing industry. Young male workers aged 15–24 years accounted for 15% of Agriculture, forestry & fishing hospitalisations while representing 8% of all agriculture, forestry & fishing workers. Young female workers aged 15–24 years accounted for 3.9% of Agriculture, forestry & fishing hospitalisations while representing 2.4% of all agriculture, forestry & fishing workers.

With the exception of young female workers as discussed, all other female age groups were under-represented: as were males aged 65 years and older. This pattern is most likely related to differences in the type of work carried out by men and women who work in the Agriculture, forestry & fishing industry.

***Figure 16*** **Agriculture, forestry & fishing work-related hospitalisations and all agriculture, forestry & fishing workers[a] June 2006 to July 2009: age and sex profile[b]**

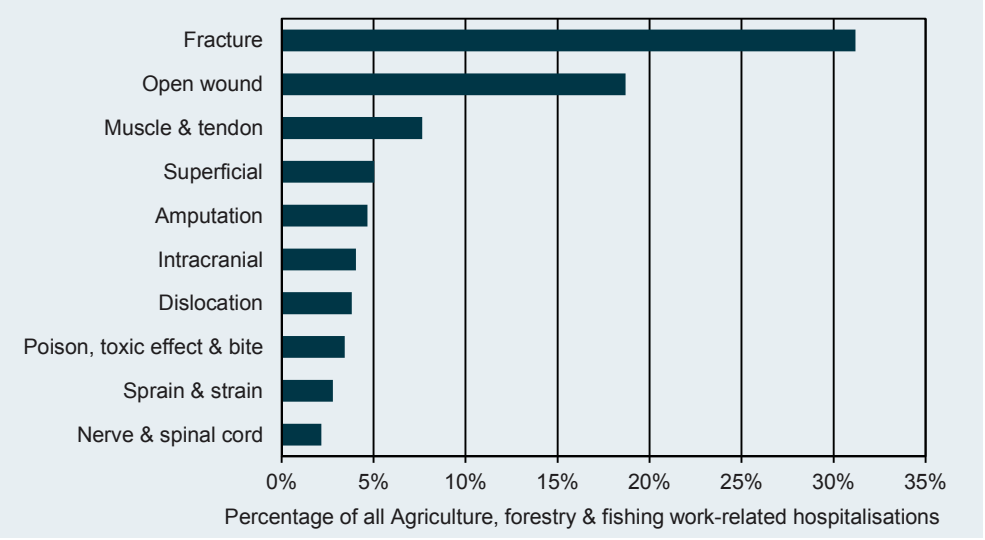



a ABS Labour Force data for Employed people (6291.0.55.003 — datacube ST E05_Aug94_ANZSIC06).

b The number of people in each age/sex grouping is expressed as a percentage of the whole group.

# Type of injury and bodily location

***Figure 17*** **Agriculture, forestry & fishing work-related hospitalisations June 2006 to July 2009: percentage of work-related hospitalisations by the most commonly specified types of injury**

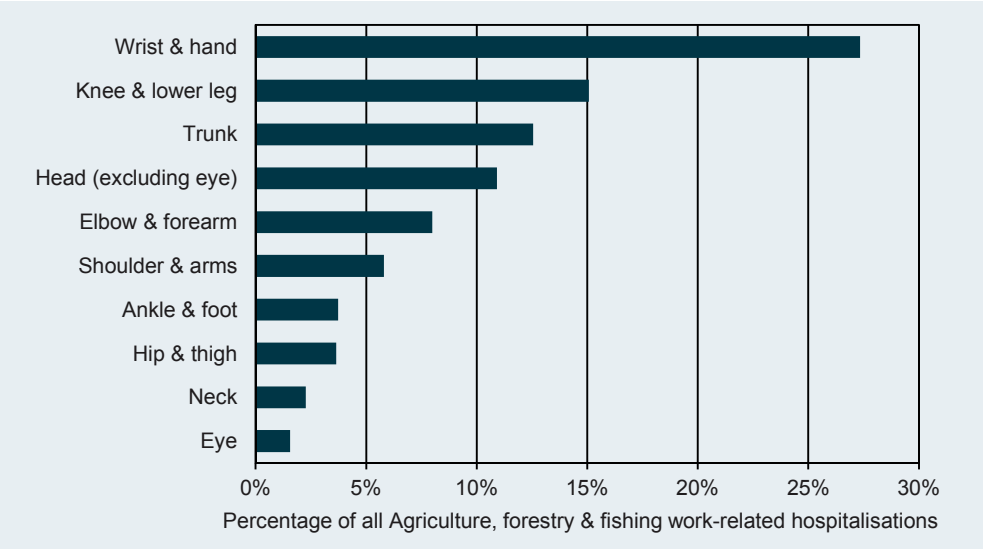



Note: These ten most common types of injury together accounted for a total of 83% of Agriculture, forestry & fishing work-related hospitalisations.

Figure 17 shows the most commonly specified types of injury sustained by agriculture, forestry & fishing workers hospitalised because of a work-related injury. *Fractures* were responsible for 31% of Agriculture, forestry & fishing hospitalisations over the period June 2006 to July 2009. Other common types of injury were *Open wound* (19%) and injuries to *Muscle & tendons* (8%).

The proportion of agriculture, forestry & fishing workers hospitalised for a *Fracture* was slightly higher than that for all work-related hospitalisations (27% — see Figure 3 p.8).

***Figure 18*** **Agriculture, forestry & fishing work-related hospitalisations June 2006 to July 2009: percentage of work-related hospitalisations by the most common bodily locations of injury**




Note: These ten most common bodily locations of injury together accounted for a total of 91% of Agriculture, forestry & fishing work-related hospitalisations.

***Table 9*** **Agriculture, forestry & fishing work-related hospitalisations July 2006 to June 2009: percentage of hospitalisations by type of injury and bodily location**

| | Percentage of Agriculture, forestry & fishing work-related hospitalisations | | |
|---|---|---|---|
| Type of injury and bodily location | Males | Females | Total |
| Fracture | 30.5% | 36.4% | 31.2% |
| *Wrist & hand* | *6.9%* | *5.7%* | *6.8%* |
| *Knee & lower leg* | *6.4%* | *8.5%* | *6.7%* |
| *Trunk* | *5.3%* | *4.6%* | *5.2%* |
| *Elbow & forearm* | *3.7%* | *8.3%* | *4.3%* |
| *Shoulder & arms* | *2.2%* | *3.2%* | *2.4%* |
| *Head (excluding eye)* | *2.2%* | *3.1%* | *2.3%* |
| *Ankle & foot* | *1.7%* | *1.1%* | *1.6%* |
| *Hip & thigh* | *1.3%* | *1.2%* | *1.3%* |
| Open wound | 19.3% | 14.4% | 18.7% |
| *Wrist & hand* | *8.9%* | *5.5%* | *8.5%* |
| *Knee & lower leg* | *3.4%* | *3.1%* | *3.3%* |
| *Head (excluding eye)* | *2.5%* | *2.4%* | *2.5%* |
| *Elbow & forearm* | *1.8%* | *1.0%* | *1.7%* |
| *Ankle & foot* | *1.0%* | *0.9%* | *1.0%* |
| Muscle & tendon | 8.2% | 4.0% | 7.6% |
| *Wrist & hand* | *3.7%* | *1.7%* | *3.5%* |
| *Shoulder & arms* | *1.4%* | *0.7%* | *1.3%* |
| *Elbow & forearm* | *1.2%* | *0.5%* | *1.1%* |
| Superficial | 4.8% | 6.7% | 5.0% |
| *Trunk* | *1.3%* | *1.7%* | *1.4%* |
| *Wrist & hand* | *0.8%* | *1.1%* | *0.9%* |
| Amputation | 5.0% | 2.5% | 4.7% |
| *Wrist & hand* | *4.7%* | *2.4%* | *4.4%* |
| Intracranial | 3.4% | 8.6% | 4.0% |
| *Head (excluding eye)* | *3.4%* | *8.6%* | *4.0%* |
| Dislocation | 3.9% | 3.0% | 3.8% |
| *Knee & lower leg* | *1.7%* | *0.6%* | *1.5%* |
| *Shoulder & arms* | *1.0%* | *1.0%* | *1.0%* |
| *Wrist & hand* | *0.5%* | *0.5%* | *0.5%* |
| Poison, toxic effect & bite | 3.5% | 3.1% | 3.4% |
| *Head (excluding eye)* | *2.7%* | *1.4%* | *2.6%* |
| Sprain & strain | 2.7% | 3.4% | 2.8% |
| *Knee & lower leg* | *1.2%* | *1.4%* | *1.3%* |
| Nerve & spinal cord | 2.3% | 1.4% | 2.2% |
| *Wrist & hand* | *1.4%* | *0.7%* | *1.3%* |
| Internal organ | 1.9% | 2.4% | 2.0% |
| Burn & corrosion | 1.9% | 1.2% | 1.8% |
| Eye injury | 1.7% | 0.4% | 1.6% |
| Crush injury | 1.2% | 1.2% | 1.2% |
| *Wrist & hand* | *0.7%* | *0.7%* | *0.7%* |
| Blood vessel | 1.0% | 0.1% | 0.9% |
| *Wrist & hand* | *0.5%* | *0.1%* | *0.4%* |
| Electrical injury | 0.2% | 0.0% | 0.2% |
| Other injury | 8.4% | 11.2% | 8.8% |
| **Total** | **100%** | **100%** | **100%** |
| Agriculture, forestry & fishing work-related hospitalisations July 2006 to June 2009 | **5 600** | **800** | **6 400** |

Note: Detailed bodily location categories are only shown to approximately 1% overall representation and thus exclude smaller location categories. Consequently these categories do not necessarily sum to the percentage shown for the type of injury category.

Figure 18 shows *Wrist & hand* injuries were predominate among agriculture, forestry & fishing workers hospitalised for a work-related injury — as they were among all work-related hospitalisations. However, the proportion of hospitalisations resulting from a *Wrist & hand* injury among agriculture, forestry & fishing workers (27%) was lower than among construction workers (43%) and all hospitalised workers (38%). The next most common bodily location of injury, also common across all work-related hospitalisations, was the *Knee & lower leg* (accounting for 15% of Agriculture, forestry & fishing hospitalisations).

Nearly one-in-ten hospitalisations of workers in the Agriculture, forestry & fishing sector were for *Open wounds* to the *Wrist & hand*

Table 8 shows a breakdown of the type of injury by the bodily location of the injury. For most types of injury, the *Wrist & hand* was the most common bodily location. Notably, *Open wounds* to the *Wrist & hand* accounted for 9% of injuries to male agriculture, forestry & fishing workers hospitalised for a work-related injury.

Although the table shows both type and location categories as a percentage of all Agriculture, forestry & fishing hospitalisations, the bodily location can easily be recalculated as a percentage of the types of injury. On that basis, the table shows that 22% of *Fractures* were to the *Wrist & hand*. Although not shown in the table, the detailed ICD-10-AM codes allow further disaggregation to show that nearly two-thirds (63%) of those *Wrist & hand* injuries were fractures of the finger/s. Nearly half (45%) of *Open wound* injuries were to the *Wrist & hand* (of which two-thirds (66%) were wounds to the finger/s). A similar proportion (46%) of *Muscle & tendon* injuries were to the *Wrist & hand*.

# Manufacturing

Over the three-year period July 2006 to June 2009 the Manufacturing industry employed on average 1 038 600 workers (10% of the Australian workforce). During this period the sex ratio of workers in the industry was 2.8 male workers for each female worker (ABS 2012).

The Manufacturing industry is generally recognised as hazardous since workers may be exposed to a disparate range of manufacturing machinery as well as plant needed to move and handle raw materials and products. Additionally, in some manufacturing industries, chemicals, raw materials and/or the products can be intrinsically dangerous. In some cases hazards for workers can include poorly guarded or unguarded machinery.

The hazardous nature of Manufacturing work results in very high rates of death and injury among workers. Over the period 2003–04 to 2010–11 between 17 and 30 manufacturing workers died annually, resulting in annual fatality rates of between 1.7 and 2.9 fatalities per 100 000 workers (Safe Work Australia 2012a).

Workers' compensation data show there were 21 serious workers' compensation claims per 1000 Manufacturing employees in 2010–11p. This was the third highest industry rate and nearly double the all industries rate of 12.2 serious claims per 1000 employees. However, compensation data also identifies an improvement in work health and safety in the Manufacturing industry sector with a 24% decrease in the incidence rate of serious claims between 2000–01 and 2009–10 (Safe Work Australia 2012b).

Over the three-year period July 2006 to June 2009, there were 4700 work-related hospitalisations where the industry sector of the worker was recorded as Manufacturing. However, since industry sector was not recorded for 39% of hospitalisations for a work-related injury, the number of hospitalisations recorded against the Manufacturing industry may be understated.

This section examines the circumstances of the hospitalisation and the characteristics of people that were known to be hospitalised for an injury sustained while working for income in the Manufacturing sector during the three-year period July 2006 to June 2009. For brevity this group is referred to as 'Manufacturing hospitalisations' in the following discussion.

# Causes of injury

Table 10 shows the broad causes of injury among Manufacturing hospitalisations and the more common detailed underlying categories. Just over three-quarters (77%) of Manufacturing hospitalisations were the result of *Exposure to inanimate mechanical forces*: this was the highest proportion of injuries resulting from this cause among the industries identified in the hospitalisations data.

The most common category underlying *Exposure to inanimate mechanical forces* was *Contact with other & unspecified machinery*. This sub-category accounted for just over one-third (34%) of all Manufacturing hospitalisations and includes the underlying categories (also shown in Figure 19) of *Contact with metalworking machinery*, *Contact with other specified machinery* and *Contact with woodworking & forming machinery.*

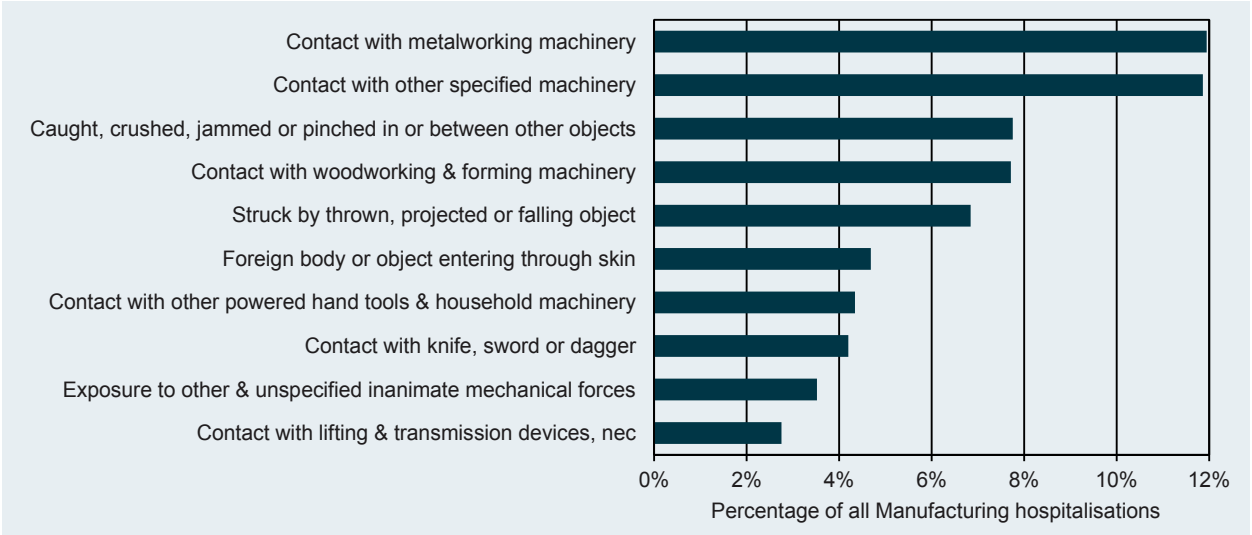
*Falls*, which accounted for 7% of Manufacturing hospitalisations, was the second most common broad cause of injury among manufacturing workers hospitalised for a work-related injury. The types of fall were varied, though one-quarter (26%) of hospitalisations due to *Falls* involved a *Fall on same level from slipping, tripping & stumbling*. The proportion of female hospitalisations for *Falls* was triple that for males (18% compared with 6%).

Metalworking machinery was the most common single cause of injury

Figure 19 shows the ten most common detailed specified causes of injury among manufacturing workers hospitalised for a work-related injury. The most commonly specified cause, accounting for just over one-in-ten (12%) of Manufacturing hospitalisations, was *Contact with metalworking machinery*.

Other commonly specified causes included *Contact with other specified machinery* (12% of Manufacturing hospitalisations); *Caught, crushed, jammed or pinched in or between other* [than a door] *objects* (8%); *Contact with woodworking & forming machinery* (8%); and *Struck by thrown, projected or falling object* (7%).

***Figure 19*** **Manufacturing work-related hospitalisations June 2006 to July 2009: percentage of hospitalisations by the most commonly specified causes of injury**




Note: These ten specified causes of injury together accounted for a total of 66% of Manufacturing work-related hospitalisations.

## *Table 10* Manufacturing work-related hospitalisations July 2006 to June 2009: percentage of hospitalisations by cause of injury and sex

| | Percentage of Manufacturing work-related hospitalisations | | |
|---|---|---|---|
| Cause of injury | Males | Females | Total |
| Exposure to inanimate mechanical forces | 78.1% | 57.5% | 76.6% |
| *Contact with other & unspecified machinery* | *34.4%* | *29.1%* | *34.0%* |
| *Contact with metalworking machinery* | *12.7%* | *3.1%* | *11.9%* |
| *Contact with other specified machinery* | *11.1%* | *21.9%* | *11.9%* |
| *Contact with woodworking & forming machinery* | *8.1%* | *2.3%* | *7.7%* |
| *Contact with unspecified machinery* | *2.4%* | *1.7%* | *2.4%* |
| *Caught, crushed, jammed or pinched in or between objects* | *8.4%* | *2.6%* | *8.0%* |
| *Caught, crushed, jammed or pinched in or between other objects* | *8.2%* | *2.3%* | *7.8%* |
| *Struck by thrown, projected or falling object* | *7.2%* | *2.8%* | *6.8%* |
| *Foreign body or object entering through skin* | *4.9%* | *1.7%* | *4.7%* |
| *Contact with other powered hand tools & household machinery.* | *4.3%* | *4.8%* | *4.3%* |
| *Contact with knife, sword or dagger* | *4.2%* | *3.7%* | *4.2%* |
| *Exposure to other & unspecified inanimate mechanical forces* | *3.7%* | *1.7%* | *3.5%* |
| *Contact with lifting & transmission devices, nec* | *2.6%* | *5.1%* | *2.8%* |
| *Contact with nonpowered hand tool* | *2.2%* | *1.7%* | *2.2%* |
| *Contact with sharp glass* | *1.4%* | *2.0%* | *1.4%* |
| *Striking against or struck by other objects* | *2.0%* | *1.1%* | *2.0%* |
| Falls | 6.0% | 17.9% | 6.8% |
| *Fall on same level from slipping, tripping & stumbling* | *1.4%* | *7.4%* | *1.8%* |
| *Fall on same level from slipping* | *0.8%* | *3.7%* | *1.0%* |
| *Fall on same level from tripping* | *0.4%* | *3.4%* | *0.7%* |
| *Other fall from one level to another* | *1.1%* | *0.3%* | *1.0%* |
| *Fall on & from ladder* | *0.9%* | *1.7%* | *0.9%* |
| *Other fall on same level* | *0.6%* | *2.3%* | *0.7%* |
| Accidental exposure to other & unspecified factors | 4.2% | 5.1% | 4.2% |
| Overexertion, travel & privation | 2.5% | 4.6% | 2.6% |
| Accidental poisoning by & exposure to noxious substances | 2.2% | 5.7% | 2.5% |
| *Accidental poisoning by & exposure to other & unspecified chemicals & noxious substances* | *1.4%* | *2.8%* | *1.5%* |
| *Accidental poisoning by & exposure to other gases & vapours* | *0.6%* | *2.6%* | *0.8%* |
| Contact with heat & hot substances | 2.0% | 3.4% | 2.1% |
| Exposure to electric current, radiation & extreme ambient air temperature & pressure | 1.2% | 0.3% | 1.2% |
| Other causes of injury | 3.8% | 5.4% | 4.0% |
| Total | **100%** | **100%** | **100%** |
| **Manufacturing work-related hospitalisations July 2006 to June 2009** | **4 400** | **400** | **4 700** |

Note: Detailed sub-categories are generally only shown to approximately 1% overall representation so the sub-categories do not necessarily sum to the percentage shown at the broad level.

# Place of occurrence of injury

*Factory & plant* was the most commonly specified place of occurrence of injury among hospitalised manufacturing workers

Overall the broader category of *Industrial and construction area* was the place of occurrence for most (88%) patients hospitalised for a work-related injury within the Manufacturing sector and who specified the place of occurrence. At a more detailed level, *Factory & plant* was the most commonly specified place of occurrence of injury: accounting for just over three-quarters (77%) of patients hospitalised for a work-related injury within the Manufacturing sector.

***Figure 20*** **Manufacturing work-related hospitalisations June 2006 to July 2009[a]: percentage of hospitalisations by the most commonly specified[b] places of occurrence of injury**


a Where the place of occurrence was specified.
b Shows only specific categories, not other specified and unspecified categories.

Note: These five specific places of occurrence together accounted for a total of 82% of Manufacturing work-related hospitalisations for which place of occurrence was specified.

No place of occurrence was recorded for 15% of hospitalisations for a work-related injury within the Manufacturing sector. This missing information means the pattern reported here may be different to the pattern that may have been observed if the place of occurrence had been recorded for all patients.

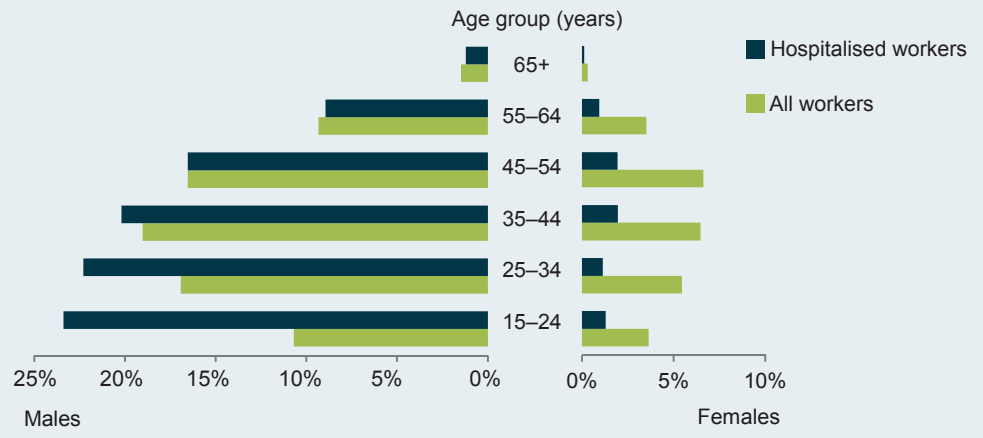
# Age and sex profile of hospitalised workers

Younger male workers were over-represented while female workers were under-represented

The age and sex profile shown in Figure 21 reveals that younger male workers in the Manufacturing industry who were hospitalised for a work-related injury were over-represented in comparison to the age and sex structure of all workers in the industry. This was particularly marked among young males aged 15–24 years who accounted for nearly one-quarter (23%) of Manufacturing hospitalisations while representing only 11% of all manufacturing workers.

Figure 21 shows that for all age groups females were under-represented among Manufacturing hospitalisations. Again, this could reflect that women working in the Manufacturing industry may work on different types of tasks compared to men.

***Figure 21*** **Manufacturing work-related hospitalisations and all manufacturing workers[a] June 2006 to July 2009: age and sex profile[b]**



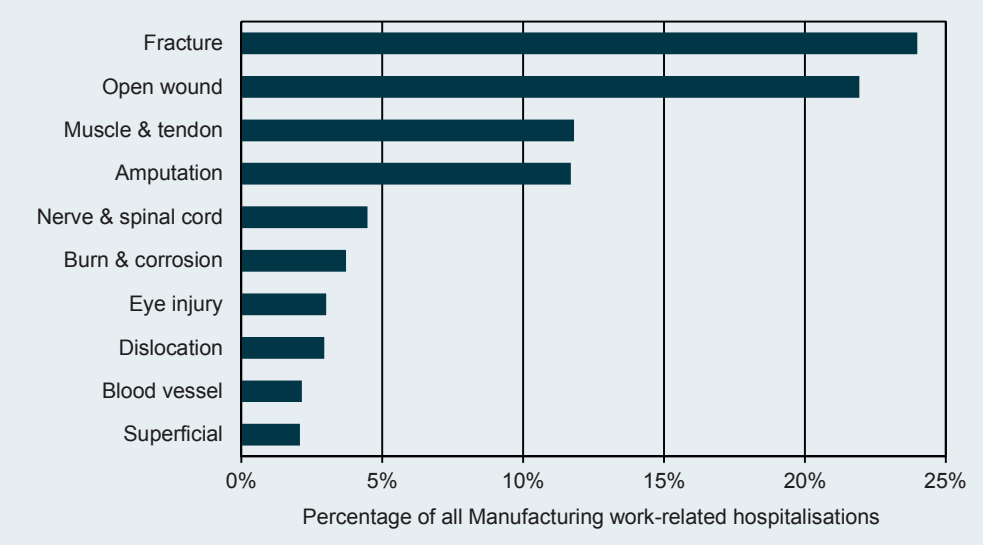

a ABS Labour Force data for Employed people (6291.0.55.003 — datacube ST E05_Aug94_ANZSIC06).

b The number of people in each age/sex grouping is expressed as a percentage of the whole group.

## Type of injury and bodily location

Figure 22 shows the most commonly specified types of injury sustained by manufacturing workers hospitalised because of a work-related injury. *Fractures* were responsible for nearly one-quarter (24%) of Manufacturing hospitalisations over the period June 2006 to July 2009: slightly lower than the proportion *Factures* accounted for among all work-related hospitalisations (27% — see Figure 3, p. 8). Other common types of injury were *Open wound* (22%) and injuries to *Muscle & tendons* (12%).

***Figure 22*** **Manufacturing work-related hospitalisations June 2006 to July 2009: percentage of work-related hospitalisations by the most commonly specified type of injury**




Note: These ten most common types of injury together accounted for a total of 86% of Manufacturing work-related hospitalisations.

Just over one-in-ten hospitalised manufacturing workers had suffered an *Amputation*

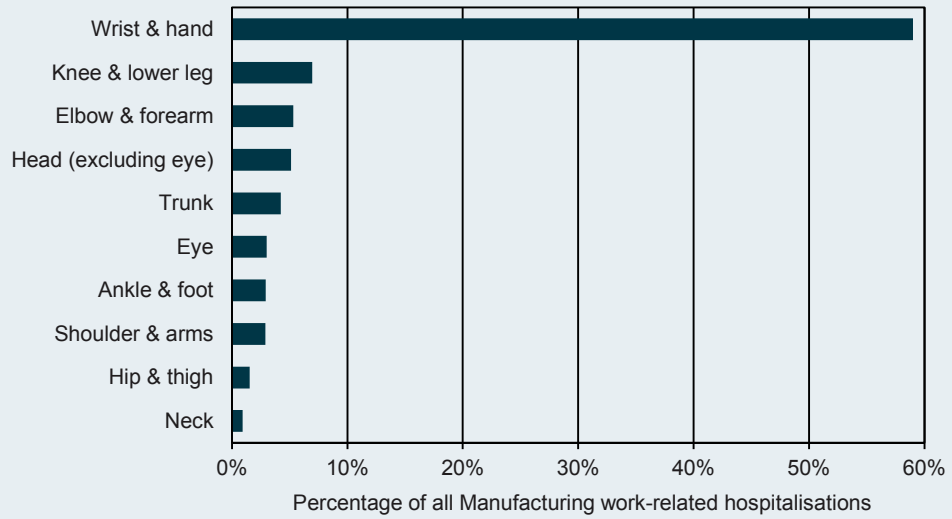
Notably, slightly more than one-in-ten (12%) manufacturing workers that were hospitalised for a work-related injury experienced an *Amputation*. This was more than double the proportion recorded for hospitalised workers in other hazardous industries such as Agriculture, forestry & fishing (4.7%) and Construction (4.8%). Overall the *Wrist & hand* was the most common

bodily location of the amputation. Nearly all the *Wrist & hand* amputations involved the fingers or thumb (99%) with nearly two-thirds involving the partial or complete amputation of a single finger (65% of *Amputations* involved the *Wrist or hand* — or 7% of Manufacturing hospitalisations).

*Wrist & hand* injuries were very common

Figure 23 shows that 59% of injuries among manufacturing workers hospitalised for a work-related injury were to the *Wrist & hand.* This proportion was the highest of all specified industry sectors and notably higher than the proportion of *Wrist & hand* injuries for all hospitalised workers (38%).

***Figure 23*** **Manufacturing work-related hospitalisations June 2006 to July 2009: percentage of work-related hospitalisations by the most common bodily locations of injury**




Note: These ten most common bodily locations of injury together accounted for a total of 91% of Manufacturing work-related hospitalisations.

Table 11 shows a breakdown of the type of injury by the bodily location of the injury. For most types of injury the *Wrist & hand* was the most common bodily location. Although the table shows both type and location categories as a percentage of all Manufacturing hospitalisations, the bodily location can easily be recalculated as a percentage of the types of injury. On that basis the table shows 60% of *Fractures* were to the *Wrist & hand*. Although not shown in the table the detailed ICD-10-AM codes allow further disaggregation to show that nearly three-quarters (73%) of those *Wrist & hand* injuries were fractures of the finger/s. Nearly three-quarters (73%) of *Open wound* injuries were to the *Wrist & hand* (of which 79% were wounds to the finger/s). A similar proportion (69%) of *Muscle & tendon* injuries were to the *Wrist & hand*.

There were generally only minor differences in the distribution of types of injury for males and females who worked in Manufacturing and were hospitalised for a work-related injury. However, male hospitalisations out-numbered female hospitalisations by a factor of ten, so the female distribution may be atypical.

## *Table 11* Manufacturing work-related hospitalisations July 2006 to June 2009: percentage of hospitalisations by type of injury and bodily location

| | Percentage of Manufacturing work-related hospitalisations | | |
|---|---|---|---|
| Type of injury and bodily location | Males | Females | Total |
| Fracture | 24.1% | 22.8% | 24.0% |
| *Wrist & hand* | *14.6%* | *10.5%* | *14.3%* |
| *Knee & lower leg* | *2.7%* | *2.8%* | *2.7%* |
| *Elbow & forearm* | *1.7%* | *5.1%* | *1.9%* |
| *Ankle & foot* | *1.9%* | *0.3%* | *1.8%* |
| *Head (excluding eye)* | *1.3%* | *0.9%* | *1.2%* |
| *Trunk* | *1.1%* | *1.7%* | *1.1%* |
| Open wound | 22.2% | 19.1% | 21.9% |
| *Wrist & hand* | *16.0%* | *15.7%* | *16.0%* |
| *Head (excluding eye)* | *1.9%* | *1.7%* | *1.9%* |
| *Knee & lower leg* | *1.2%* | *0.3%* | *1.1%* |
| *Elbow & forearm* | *1.1%* | *0.3%* | *1.0%* |
| Muscle & tendon | 12.2% | 6.8% | 11.8% |
| *Wrist & hand* | *8.6%* | *3.4%* | *8.2%* |
| *Elbow & forearm* | *1.5%* | *0.9%* | *1.4%* |
| *Shoulder & arms* | *1.1%* | *1.7%* | *1.1%* |
| Amputation | 11.7% | 11.7% | 11.7% |
| *Wrist & hand* | *11.4%* | *11.4%* | *11.4%* |
| Nerve & spinal cord | 4.6% | 2.8% | 4.5% |
| *Wrist & hand* | *4.1%* | *2.8%* | *4.0%* |
| Burn & corrosion | 3.7% | 4.3% | 3.7% |
| Eye injury | 3.1% | 1.4% | 3.0% |
| Dislocation | 2.9% | 4.0% | 2.9% |
| *Knee & lower leg* | *1.5%* | *2.8%* | *1.6%* |
| Blood vessel | 2.2% | 2.0% | 2.1% |
| *Wrist & hand* | *1.6%* | *2.0%* | *1.6%* |
| Superficial | 1.9% | 3.7% | 2.1% |
| *Wrist & hand* | *0.7%* | *1.1%* | *0.7%* |
| Sprain & strain | 1.9% | 3.7% | 2.0% |
| Poison, toxic effect & bite | 1.5% | 4.6% | 1.7% |
| Crush injury | 1.6% | 1.4% | 1.6% |
| *Wrist & hand* | *1.4%* | *1.4%* | *1.4%* |
| Intracranial | 1.1% | 2.3% | 1.2% |
| Electrical injury | 1.0% | 0.3% | 0.9% |
| Internal organ | 0.5% | 0.3% | 0.5% |
| Other injury | 4.0% | 8.8% | 4.3% |
| **Total** | **100%** | **100%** | **100%** |
| **Manufacturing work-related hospitalisations July 2006 to June 2009** | **4 400** | **400** | **4 700** |

Note: Detailed bodily location categories are only shown to approximately 1% overall representation and exclude smaller location categories. Consequently these categories do not necessarily sum to the percentage shown for the type of injury category.

# Transport & storage

Over the three-year period July 2006 to June 2009 the Transport, postal and warehousing[1] industry employed on average 556 000 workers (5% of the Australian workforce). During this period the sex ratio of workers in the industry was 3.3 male workers for each female worker (ABS 2012).

The Transport & storage industry is recognised as hazardous. Particularly the Road freight transport industry since those workers are primarily responsible for moving freight around the country and are regularly exposed to the hazards involved with short and long distance road, rail & water transport and the loading, unloading and storage of goods, often with the aid of heavy equipment.

The hazardous nature of Transport & storage work results in very high rates of death and injury among workers. Over the period 2003–04 to 2010–11 between 50 and 79 transport, postal and warehousing[1] workers died annually, resulting in annual fatality rates of between 8.8 and 14.4 fatalities per 100 000 workers (Safe Work Australia 2012a).

Workers' compensation data show there were 21.7 serious workers' compensation claims per 1000 Transport & storage employees in 2010–11p. This was the highest industry rate and nearly double the all industries rate of 12.2 serious claims per 1000 employees. However, compensation data also identifies an improvement in work health and safety in the Transport & storage industry sector with a 24% decrease in the incidence rate of serious claims between 2000–01 and 2009–10 (Safe Work Australia 2012b).

Over the three-year period July 2006 to June 2009, there were 3710 work-related hospitalisations where the industry sector of the worker was recorded as Transport & storage. However, since industry sector was not recorded for 39% of hospitalisations for a work-related injury, the number of hospitalisations recorded against the Transport & storage industry is likely to be understated.

This section examines the circumstances of the hospitalisation and the characteristics of people that were known to be hospitalised for an injury sustained while working for income in the Transport & storage sector during the three-year period July 2006 to June 2009. For brevity this group is referred to as 'Transport & storage hospitalisations' in the following discussion.

1. This is the current Australian and New Zealand Standard industrial Classification (ANZSIC) 2006 equivalent to the ANZSIC 1993 industry group 'Transport & storage' currently used for workers' compensation data. The underlying categories are mainly the same.

# Causes of injury

Well over one-third of hospitalisations involved *Transport accidents*

Table 12 shows the broad causes of injury among Transport & storage hospitalisations and some of the more common detailed underlying categories. Well over one-third (39%) of Transport & storage hospitalisations were the result of *Transport accidents* and of these 59% were categorised as *Occupant of heavy transport vehicle injured in transport accident* — accounting for nearly one-quarter (23%) of all Transport & storage hospitalisations. The most common detailed category underlying *Occupant of heavy transport vehicle injured in transport accident* was *Occupant of heavy transport vehicle injured in non-collision transport accident, driver, traffic accident*: which accounted for 7% of all Transport & storage hospitalisations.

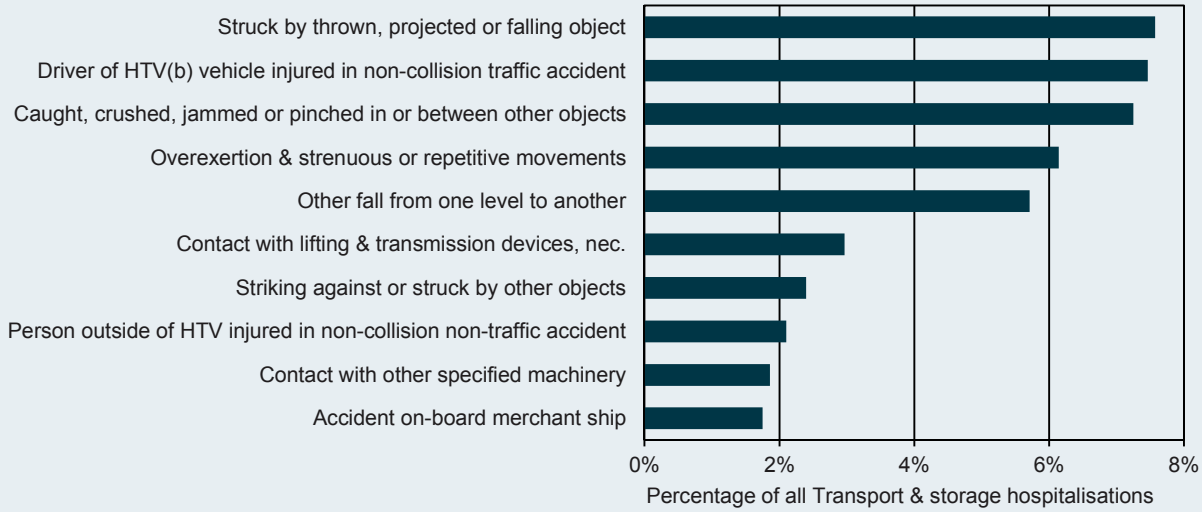
*Exposure to inanimate mechanical forces*, which accounted for 30% of Transport & storage hospitalisations, was the second most common broad cause of injury. The two most common underlying categories were *Struck by thrown, projected or falling object* (8%) and *Caught, crushed, jammed or pinched in or between other* [than a door] *objects* (7%).

*Struck by a thrown, projected or falling object* was the most common cause of injury

Figure 24 shows the ten most common detailed specified causes of injury among transport & storage workers hospitalised for a work-related injury. The most commonly specified cause, accounting for 8% of Transport & storage hospitalisations, was being *Struck by thrown, projected or falling object*.

Other commonly specified causes included *Driver of heavy transport vehicle (HTV) injured in non-collision traffic accident* (7% of Transport & storage hospitalisations); *Caught, crushed, jammed or pinched in or between other* [than a door] *objects* (7%); *Overexertion & strenuous or repetitive movements* (6%); and *Other fall from one level to another* (6%).

***Figure 24*** **Transport & storage work-related hospitalisations June 2006 to July 2009: percentage of hospitalisations by the most commonly specified[a] causes of injury**




a Long category names in the transport related categories have been simplified for brevity.
b HTV = Heavy Transport Vehicle.

Note: These ten specified causes of injury together accounted for a total of 45% of Transport & storage work-related hospitalisations.

## *Table 12* Transport & storage work-related hospitalisations July 2006 to June 2009: percentage of hospitalisations by cause of injury and sex

| | Percentage of Transport & storage work-related hospitalisations | | |
|---|---|---|---|
| Cause of injury | Males | Females | Total |
| Transport accidents | 38.9% | 34.5% | 38.8% |
| *Occupant of heavy transport vehicle injured in transport accident* | *23.2%* | *9.4%* | *22.7%* |
| *Occupant of heavy transport vehicle injured in non-collision transport accident, driver, traffic accident* | *7.8%* | *0.0%* | *7.5%* |
| *Occupant of heavy transport vehicle injured in non-collision transport accident, person on outside of vehicle, non-traffic accident* | *2.2%* | *0.0%* | *2.1%* |
| *Occupant of heavy transport vehicle injured in collision with heavy transport vehicle or bus, driver, traffic accident* | *1.8%* | *0.7%* | *1.8%* |
| *Occupant [any] of heavy transport vehicle injured in unspecified traffic accident* | *1.7%* | *0.0%* | *1.7%* |
| *Occupant of heavy transport vehicle injured in non-collision transport accident, driver, non-traffic accident* | *1.6%* | *0.0%* | *1.5%* |
| *Occupant of heavy transport vehicle injured in non-collision transport accident, while boarding or alighting* | *1.5%* | *2.2%* | *1.5%* |
| *Occupant [any] of heavy transport vehicle injured in other specified transport accidents* | *1.5%* | *0.7%* | *1.5%* |
| *Occupant of heavy transport vehicle injured in collision with car, pick-up truck or van, driver, traffic accident* | *1.3%* | *0.7%* | *1.2%* |
| *Occupant of heavy transport vehicle injured in collision with fixed or stationary object, driver, traffic accident* | *1.3%* | *0.7%* | *1.2%* |
| *Car occupant injured in transport accident* | *3.5%* | *8.6%* | *3.7%* |
| *Other land transport accidents* | *2.5%* | *6.5%* | *2.7%* |
| *Water transport accidents* | *2.7%* | *0.7%* | *2.6%* |
| *Occupant of pick-up truck or van injured in transport accident* | *1.8%* | *1.4%* | *1.8%* |
| *Pedestrian injured in transport accident* | *1.7%* | *0.7%* | *1.6%* |
| *Motorcycle rider injured in transport accident* | *1.6%* | *1.4%* | *1.6%* |
| *Air & space transport accidents* | *0.9%* | *2.2%* | *0.9%* |
| *Bus occupant injured in transport accident* | *0.8%* | *3.6%* | *0.9%* |
| Exposure to inanimate mechanical forces | 30.1% | 18.7% | 29.7% |
| *Struck by thrown, projected or falling object* | *7.7%* | *4.3%* | *7.6%* |
| *Caught, crushed, jammed or pinched in or between other objects* | *7.4%* | *3.6%* | *7.2%* |
| *Contact with lifting & transmission devices, not elsewhere classified* | *3.0%* | *2.2%* | *3.0%* |
| *Striking against or struck by other objects* | *2.4%* | *3.6%* | *2.4%* |
| *Contact with other specified machinery* | *1.9%* | *1.4%* | *1.9%* |
| *Foreign body or object entering through skin* | *1.6%* | *0.0%* | *1.5%* |
| *Exposure to other & unspecified inanimate mechanical forces* | *1.1%* | *0.0%* | *1.1%* |
| Falls | 12.2% | 21.6% | 12.6% |
| *Other fall from one level to another* | *5.8%* | *4.3%* | *5.7%* |
| *Fall on same level from slipping* | *1.1%* | *5.0%* | *1.2%* |
| *Fall on same level from tripping* | *0.9%* | *4.3%* | *1.1%* |
| *Fall on & from ladder* | *0.8%* | *2.2%* | *0.9%* |
| Overexertion, travel & privation | 6.0% | 10.8% | 6.2% |
| Accidental exposure to other & unspecified factors | 5.1% | 5.8% | 5.1% |
| Assault | 3.4% | 1.4% | 3.3% |
| Accidental poisoning by & exposure to noxious substances | 0.9% | 5.8% | 1.1% |
| Other causes of injury | 3.4% | 1.4% | 3.3% |
| **Total** | **100%** | **100%** | **100%** |
| **Transport & storage work-related hospitalisations July 2006 to June 2009** | **3,570** | **140** | **3,710** |

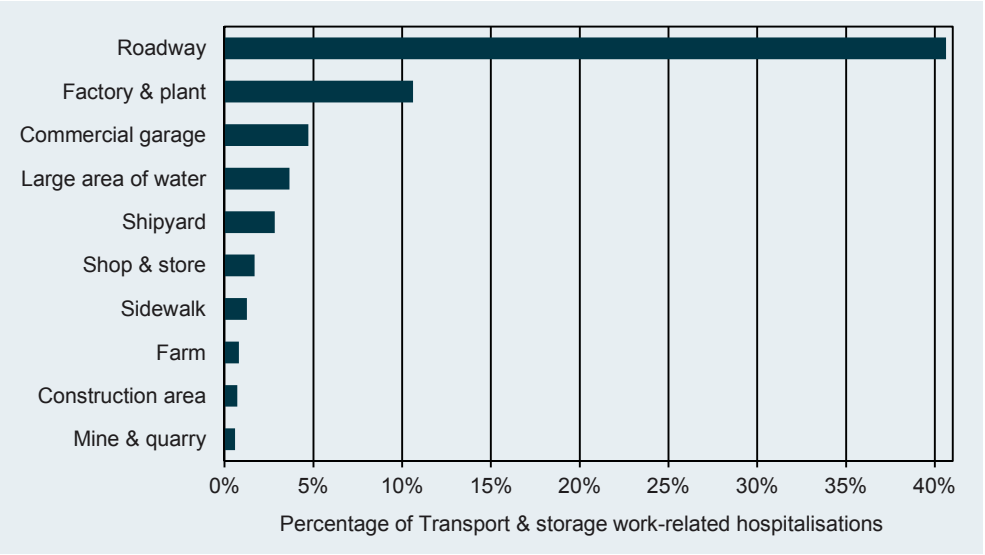
Note: Detailed sub-categories are generally only shown to approximately 1% overall representation so the sub-categories do not sum to the percentage shown at the broad level.

*Falls*, accounting for around one-in-ten (13%) Transport & storage hospitalisations, was the third most common broad cause of hospitalisation. Around half the *Falls* (45%) were categorised as an *Other fall from one level to another*: Although this category covers a variety of circumstances other than a fall from a natural feature, such as a cliff, it is likely many of these falls were from loading docks or trucks.

## Place of occurrence of injury

A *Roadway* was the most commonly specified (41%) place of occurrence of injury for patients hospitalised for a work-related injury within the Transport & storage sector. The next most commonly specified places of occurrence were *Factory & plant* (11%) and *Commercial garage* (4.7%).

***Figure 25*** **Transport & storage work-related hospitalisations June 2006 to July 2009[a]: percentage of hospitalisations by the most commonly specified[b] places of occurrence of injury**




a Where the place of occurrence was specified.
b Shows only specific categories, not other specified and unspecified categories.

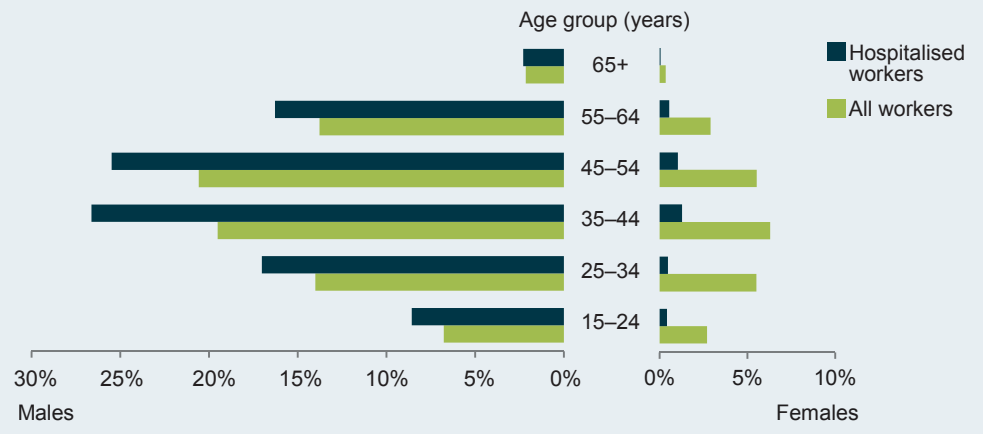
Note: These ten specific places of occurrence together accounted for a total of 67% of Transport & storage work-related hospitalisations for which place of occurrence was specified.

No place of occurrence was recorded for 36% of hospitalisations for a work-related injury within the Transport & storage sector. This missing information means the pattern reported here may be different to the pattern that would have been observed if the place of occurrence had been recorded for all patients.

# Age and sex profile of hospitalised workers

Figure 26 shows the age and sex profile of hospitalised workers in the Transport & storage industry and of all workers employed in the industry. The Transport, postal & storage industry had a relatively old age profile, with 19% of workers employed in the sector aged 55 years or older during the period June 2006 to July 2009.

***Figure 26*** **Transport & storage work-related hospitalisations and all transport & storage workers[a] June 2006 to July 2009: age and sex profile[b]**




a ABS Labour Force data for Employed people in the ANZSIC 2006 category of Transport, postal and warehousing (6291.0.55.003 — datacube ST E05_Aug94_ANZSIC06).

b The number of people in each age/sex grouping is expressed as a percentage of the whole group.

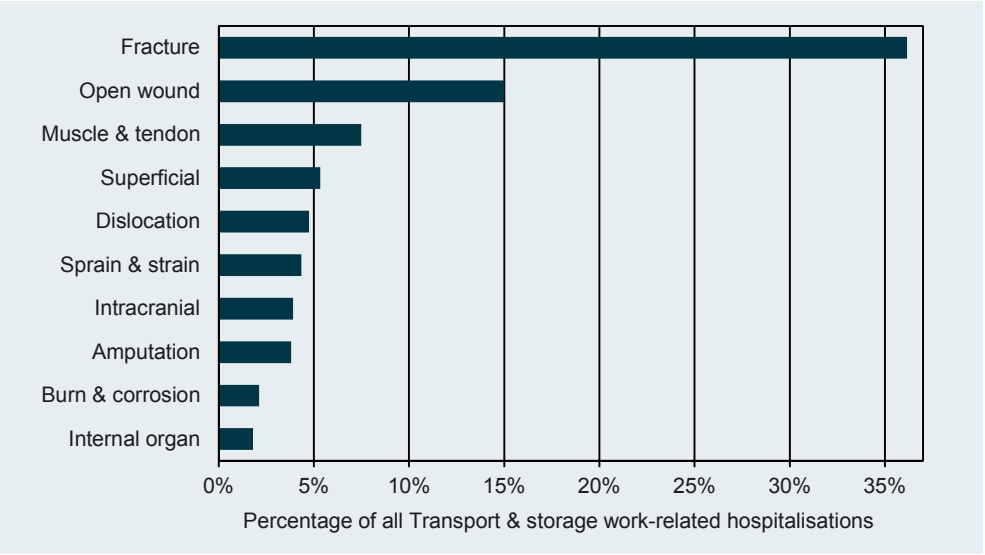
Males, particularly middle-aged males, were over-represented and females were considerably under-represented among Transport & storage hospitalisations

The age and sex profile shown in Figure 26 shows that males in the Transport & storage industry who were hospitalised for a work-related injury were over-represented in comparison to the age and sex structure of all workers in the industry. In particular, male workers aged 35–44 years accounted for 27% of Transport & storage hospitalisations but represented only 20% of all transport & storage workers.

Conversely, female workers of all ages were considerably under-represented. This pattern is probably related to differences in the type of work carried out by men and women who work in the Transport & storage industry. For example, in the 2006 Census of Population and Housing, 97% of *Truck drivers*, which is one of the more hazardous occupation groups likely to be employed within the Transport & storage industry, were male.

# Type of injury and bodily location

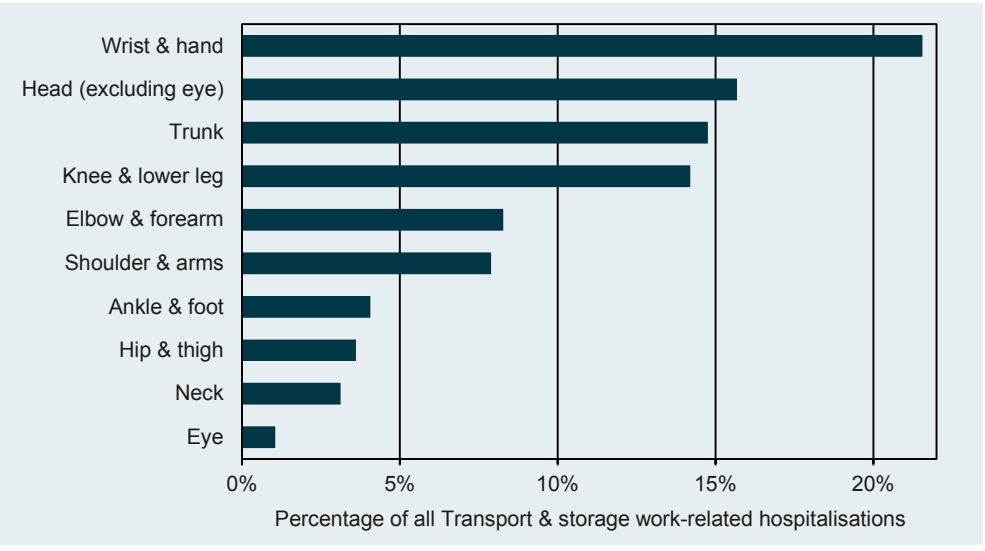
***Figure 27*** **Transport & storage work-related hospitalisations June 2006 to July 2009: percentage of work-related hospitalisations by the most commonly specified types of injury**




Note: These ten most common types of injury together accounted for a total of 85% of Transport & storage work-related hospitalisations.

Figure 27 shows the most commonly specified types of injury sustained by transport & storage workers hospitalised because of a work-related injury. *Fractures* were responsible for 36% of Transport & storage hospitalisations over the period June 2006 to July 2009. This was the highest proportion of *Fractures* of all the specified industries and notably higher than the proportion among all work-related hospitalisations (27%). Other common types of injury were *Open wound* (15%) and injuries to *Muscle & tendons* (7%).

***Figure 28*** **Transport & storage work-related hospitalisations June 2006 to July 2009: percentage of work-related hospitalisations by the most common bodily locations of injury**




Note: These ten most common bodily locations of injury together accounted for a total of 93% of Transport & storage work-related hospitalisations.

Figure 28 shows 21% of transport & storage workers were hospitalised for a work-related *Wrist & hand* injury, which was notably lower than the proportion of all hospitalised workers (38%). However, the next most common bodily location, *Head (excluding eye)*, accounted for 16% of Transport & storage hospitalisations and this was the highest percentage of all specified industries and nearly double the percentage of *Head (excluding eye)* injuries among all work-related hospitalisations (8%).

***Table 13*** **Transport & storage work-related hospitalisations July 2006 to June 2009: percentage of hospitalisations by type of injury and bodily location**

| | Percentage of Transport & storage work-related hospitalisations | | |
|---|---|---|---|
| Type of injury and bodily location | Males | Females | Total |
| Fracture | 36.4% | 30.2% | 36.2% |
| *Wrist & hand* | *7.9%* | *5.8%* | *7.8%* |
| *Knee & lower leg* | *6.4%* | *5.0%* | *6.4%* |
| *Trunk* | *6.2%* | *2.2%* | *6.0%* |
| *Elbow & forearm* | *5.7%* | *10.1%* | *5.8%* |
| *Head (excluding eye)* | *3.5%* | *0.7%* | *3.4%* |
| *Ankle & foot* | *2.4%* | *2.2%* | *2.4%* |
| *Shoulder & arms* | *2.1%* | *2.9%* | *2.1%* |
| *Hip & thigh* | *1.5%* | *1.4%* | *1.5%* |
| Open wound | 15.2% | 8.6% | 15.0% |
| *Head (excluding eye)* | *5.6%* | *3.6%* | *5.5%* |
| *Wrist & hand* | *4.9%* | *2.2%* | *4.8%* |
| *Knee & lower leg* | *2.0%* | *1.4%* | *2.0%* |
| *Elbow & forearm* | *1.2%* | *1.4%* | *1.2%* |
| Muscle & tendon | 7.5% | 6.5% | 7.5% |
| *Shoulder & arms* | *3.0%* | *3.6%* | *3.1%* |
| *Wrist & hand* | *2.0%* | *0.7%* | *2.0%* |
| Superficial | 5.3% | 5.0% | 5.3% |
| *Trunk* | *1.5%* | *4.3%* | *1.6%* |
| *Head (excluding eye)* | *1.2%* | *0.0%* | *1.1%* |
| Dislocation | 4.6% | 8.6% | 4.7% |
| *Knee & lower leg* | *2.4%* | *2.9%* | *2.4%* |
| Sprain & strain | 4.2% | 7.9% | 4.3% |
| *Knee & lower leg* | *1.4%* | *0.7%* | *1.4%* |
| *Trunk* | *1.1%* | *0.0%* | *1.1%* |
| Intracranial | 3.8% | 7.2% | 3.9% |
| *Head (excluding eye)* | *3.8%* | *7.2%* | *3.9%* |
| Amputation | 3.9% | 1.4% | 3.8% |
| *Wrist & hand* | *3.6%* | *1.4%* | *3.6%* |
| Burn & corrosion | 2.2% | 1.4% | 2.1% |
| Internal organ | 1.8% | 1.4% | 1.8% |
| Other type of injury | 15.0% | 21.6% | 15.3% |
| **Total** | **100%** | **100%** | **100%** |
| Transport & storage work-related hospitalisations July 2006 to June 2009 | **3,570** | **140** | **3,710** |

Note: Detailed bodily location categories are only shown to approximately 1% overall representation and exclude smaller location categories. Consequently these bodily location categories do not necessarily sum to the percentage shown for the type of injury category.

Table 13 shows a breakdown of the type of injury by the bodily location of the injury. Although the *Wrist & hand* was still the most common bodily location of an injury among hospitalised transport & storage workers (see Figure 28) and the most common location of a *Fracture*, (8% of all Transport & storage hospitalisations) *Wrist & hand* injuries were not quite as dominant as they were in the other industries examined in this report. Injuries to the *Head* were the second most common bodily location (see Figure 28), and these most commonly involved *Open wounds* (6% of all Transport & storage hospitalisations); *Intracranial injuries* (3.9%) and *Fractures* (3.4%). Similarly, injuries to the *Knee & lower leg*, which was the fourth most common bodily location of injury among hospitalised transport & storage workers (see Figure 28), commonly involved *Fractures* (6% of all Transport & storage hospitalisations); *Dislocations* (2.4%); *Open wounds* (2.0%) and *Strains & sprains* (1.4%).

# Wholesale & retail trade

Over the three-year period July 2006 to June 2009 the Wholesale and retail trade[1] industry employed on average 1 619 000 workers (15% of the Australian workforce). During this period the sex ratio of workers in these two industries combined was close to one male worker for each female worker (ABS 2012).

The Wholesale & retail trade industry is responsible for the handling and sale of goods around Australia and consequently has to contend with the many hazards associated with manual handling and the vehicles involved with mechanical handling.

The Wholesale and the Retail trade industry sectors together have below average rates of injury and death among workers. Over the period 2003–04 to 2010–11 between 6 and 14 Wholesale trade workers died annually while in the Retail sector between 4 and 13 workers died annually. These deaths resulted in annual fatality rates of between 1.4 and 3.7 fatalities per 100 000 workers in the Wholesale trade sector and between 0.3 and 1.1 in the Retail trade sector (Safe Work Australia 2012a). These are relatively low rates in comparison to the all industries rates of between 1.9 and 2.9 fatalities per 100 000 workers over the same period.

Workers' compensation data show there were 9.4 serious workers' compensation claims per 1000 Wholesale & retail trade employees in 2010–11p. This was slightly lower than the all industries rate of 12.2 serious claims per 1000 employees. Compensation data also identifies an overall improvement in work health and safety in the Wholesale & retail trade sector with a 27% decrease in their combined incidence rate of serious claims between 2000–01 and 2009–10 (Safe Work Australia 2012b).

Over the three-year period July 2006 to June 2009, there were 3700 work-related hospitalisations where the industry sector of the worker was recorded as Wholesale & retail trade. However, since industry sector was not recorded for 39% of hospitalisations for a work-related injury, the number of hospitalisations recorded against the Wholesale & retail trade industry may be understated.

This section examines the circumstances of the hospitalisation and the characteristics of people that were known to be hospitalised for an injury sustained while working for income in the Wholesale & retail trade sector during the three-year period July 2006 to June 2009. For brevity this group is referred to as 'Wholesale & retail trade hospitalisations' in the following discussion.

1. Because these are separate industry categories in the Australian and New Zealand Standard industrial Classification (ANZSIC) 2006 the figures presented are for the combination of the Wholesale trade and Retail trade industry divisions.

# Causes of injury

*Exposure to inanimate mechanical forces* caused half the injuries

Table 14 shows the broad causes of injury among Wholesale & retail trade hospitalisations and some of the more common detailed underlying categories. *Exposure to inanimate mechanical forces*, which accounted for 51% of Wholesale & retail trade hospitalisations, was the most common broad cause of injury. The most common underlying categories were *Contact with knife,sword or dagger (15%); Contact with other specified machinery (7%); Struck by thrown, projected or falling object* (5%); and *Contact with sharp glass* (4%).

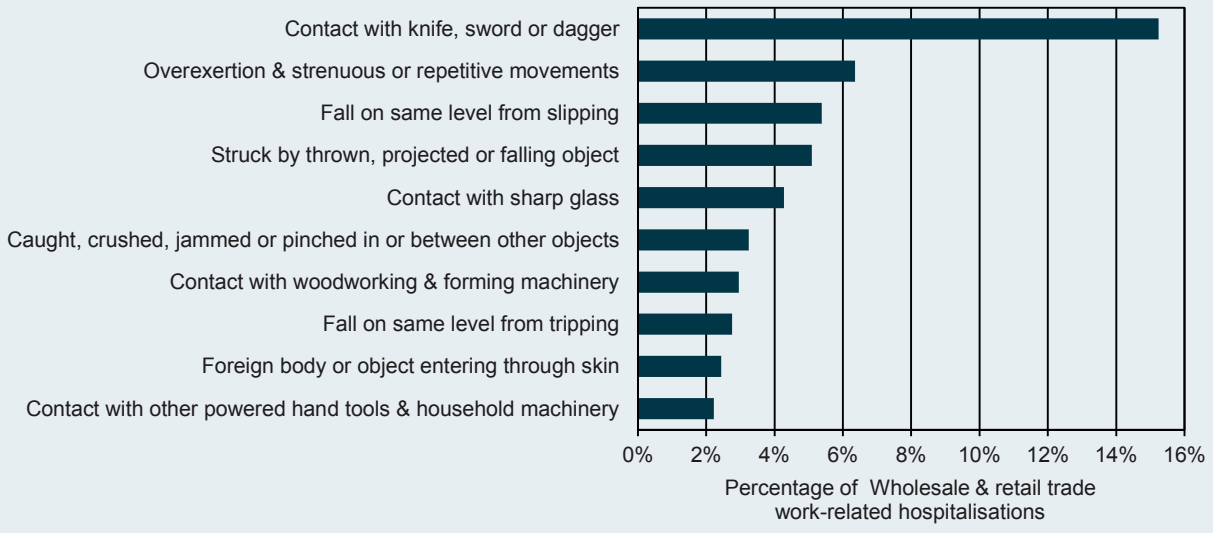
The second most common broad cause of injury was *Falls*: accounting for 17% of Wholesale & retail trade hospitalisations. The most common types of fall were a *Fall on same level from slipping* (5%); a *Fall on the same level from tripping* (3%); and a *Fall on or from a ladder* (2%).

Contact with a sharp blade was the commonest cause of injury

Figure 29 shows the ten most common detailed specified causes of injury among Wholesale & retail trade workers hospitalised for a work-related injury. The most common specified cause, accounting for 15% of Wholesale & retail trade hospitalisations, was *Contact with knife,sword or dagger*: a category possibly related to opening containers with box-cutters.

Other common specified causes included *Overexertion & strenuous or repetitive movements* (6%), *Fall on same level from slipping* (5%), *Struck by thrown, projected or falling object* (5%) and *Contact with sharp glass* (4%).

***Figure 29*** **Wholesale & retail trade work-related hospitalisations June 2006 to July 2009: percentage of hospitalisations by the most commonly specified causes of injury**




NB: These ten specified causes of injury together accounted for a total of 50% of Wholesale & retail trade work-related hospitalisations.

***Table 14*** **Wholesale & retail trade work-related hospitalisations July 2006 to June 2009: percentage of hospitalisations by cause of injury and sex**

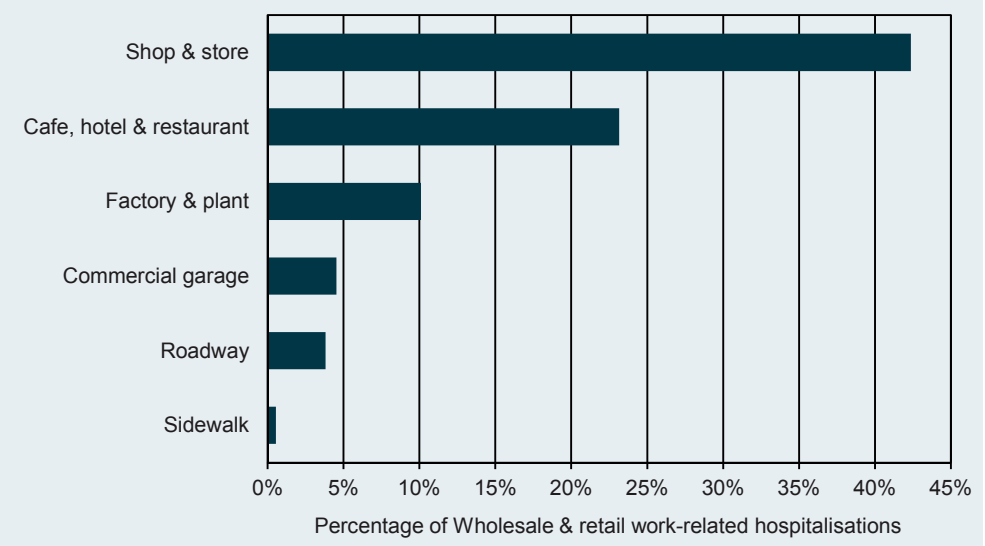
| | Percentage of Wholesale & retail trade work-related hospitalisations | | |
|---|---|---|---|
| Cause of injury | Males | Females | Total |
| Exposure to inanimate mechanical forces | 57.5% | 36.0% | 51.4% |
| *Contact with knife, sword or dagger* | *18.3%* | *7.3%* | *15.2%* |
| *Contact with other specified machinery* | *6.5%* | *6.5%* | *6.5%* |
| *Struck by thrown, projected or falling object* | *5.6%* | *3.9%* | *5.1%* |
| *Contact with sharp glass* | *4.2%* | *4.4%* | *4.3%* |
| *Caught, crushed, jammed or pinched in or between other objects* | *3.8%* | *1.9%* | *3.2%* |
| *Contact with woodworking & forming machinery* | *3.9%* | *0.6%* | *2.9%* |
| *Foreign body or object entering through skin* | *2.7%* | *1.8%* | *2.4%* |
| *Contact with other powered hand tools & household machinery* | *2.2%* | *2.2%* | *2.2%* |
| *Exposure to other & unspecified inanimate mechanical forces* | *2.4%* | *1.3%* | *2.1%* |
| *Striking against or struck by other objects* | *1.6%* | *2.1%* | *1.7%* |
| *Contact with lifting & transmission devices, not elsewhere classified* | *1.6%* | *0.9%* | *1.4%* |
| *Contact with non-powered hand tool* | *1.4%* | *1.3%* | *1.4%* |
| *Caught, crushed, jammed or pinched in or between door* | *0.4%* | *1.0%* | *0.6%* |
| *Contact with unspecified machinery* | *0.7%* | *0.1%* | *0.5%* |
| Falls | 11.8% | 30.6% | 17.1% |
| *Fall on same level from slipping* | *2.7%* | *12.4%* | *5.4%* |
| *Fall on same level from tripping* | *1.5%* | *6.1%* | *2.8%* |
| *Fall on & from ladder* | *1.7%* | *1.9%* | *1.8%* |
| *Unspecified fall* | *0.9%* | *3.5%* | *1.6%* |
| *Other fall from one level to another* | *1.8%* | *1.0%* | *1.6%* |
| *Fall on & from stairs & steps* | *0.6%* | *2.1%* | *1.0%* |
| *Unspecified fall on same level* | *0.7%* | *0.7%* | *0.7%* |
| *Fall on & from stairs & steps* | *0.4%* | *0.8%* | *0.5%* |
| Overexertion, travel & privation | 5.3% | 9.0% | 6.4% |
| Transport accidents | 5.7% | 4.2% | 5.3% |
| *Car occupant injured in transport accident* | *1.5%* | *2.5%* | *1.8%* |
| *Motorcycle rider injured in transport accident* | *0.9%* | *0.1%* | *0.6%* |
| *Pedestrian injured in transport accident* | *0.8%* | *1.1%* | *0.9%* |
| Assault | 5.8% | 2.7% | 4.9% |
| *Assault by bodily force, unspecified person* | *1.8%* | *1.1%* | *1.6%* |
| *Assault by bodily force, person unknown to the victim* | *0.7%* | *0.7%* | *0.7%* |
| Contact with heat & hot substances | 3.6% | 5.3% | 4.1% |
| *Contact with hot fat & cooking oil* | *1.5%* | *1.9%* | *1.6%* |
| *Contact with other hot fluids* | *0.5%* | *1.5%* | *0.8%* |
| Other causes of injury | 10.5% | 12.3% | 11.0% |
| **Total** | **100%** | **100%** | **100%** |
| **Wholesale & retail trade work-related hospitalisations July 2006 to June 2009** | **2 700** | **1 000** | **3 700** |

Note: Detailed sub-categories are generally only shown to approximately 1% overall representation so the sub-categories may not sum to the percentage shown at the broad level.

## Place of occurrence of injury

A *Shop & store* was the most commonly specified (42%) place of occurrence of injury for patients hospitalised for a work-related injury within the Wholesale & retail trade sector and who specified the place of occurrence. The next most commonly specified places of occurrence were *Cafe, hotel & restaurant* (23%) and *Factory & plant* (10%).

***Figure 30*** **Wholesale & retail trade work-related hospitalisations June 2006 to July 2009[a]: percentage of hospitalisations by the most commonly specified[b] places of occurrence of injury**




a Where the place of occurrence was specified.
b Shows only specific categories, not other specified and unspecified categories.

NB: These five specific places of occurrence together accounted for a total of 85% of Wholesale & retail trade work-related hospitalisations for which place of occurrence was specified.

No place of occurrence was recorded for 11% of hospitalisations for a work-related injury within the Wholesale & retail trade sector. This missing information may mean the pattern reported here is different to the pattern that might have been observed if the place of occurrence had been recorded for all patients.

## Age and sex profile of hospitalised workers

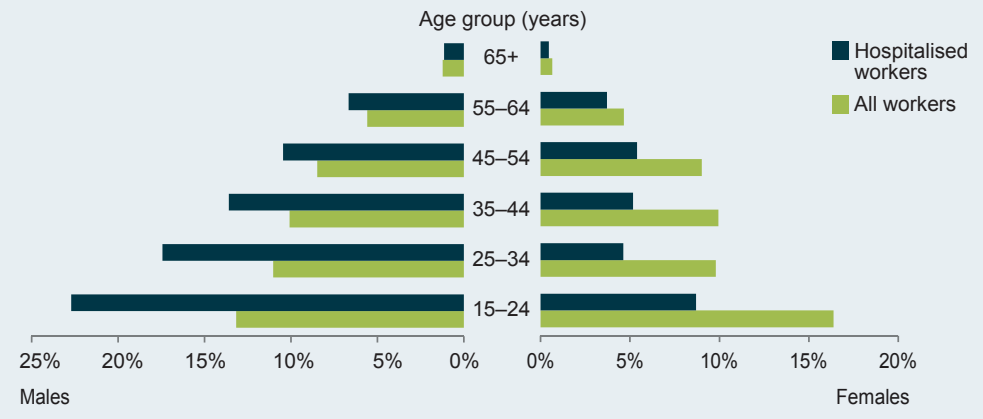
Figure 31 shows the age and sex profile for hospitalised workers in the Wholesale & retail trade industry and for all workers employed in the industry (see graph footnote a). The Wholesale & retail trade industries combined had a relatively young age profile, with 70% of workers employed in the sectors aged under 45 years over the period June 2006 to July 2009.

Hospitalised male wholesale & retail trade workers were over-represented — young workers in particular

The age and sex profile shown in Figure 31 highlights that males in the Wholesale & retail trade industry who were hospitalised for a work-related injury were over-represented in comparison to the age and sex structure of all workers in the industry. Male workers aged 15–24 years accounted for 23% of Wholesale & retail trade hospitalisations while representing 13% of all Wholesale & Retail trade workers.

Conversely, female workers of all ages were under-represented. This pattern is likely to be related to differences in the type of work carried out by men and women who work in the same industry.

***Figure 31*** **Wholesale & retail trade work-related hospitalisations and all Wholesale & retail trade workers[a] June 2006 to July 2009: age and sex profile[b]**



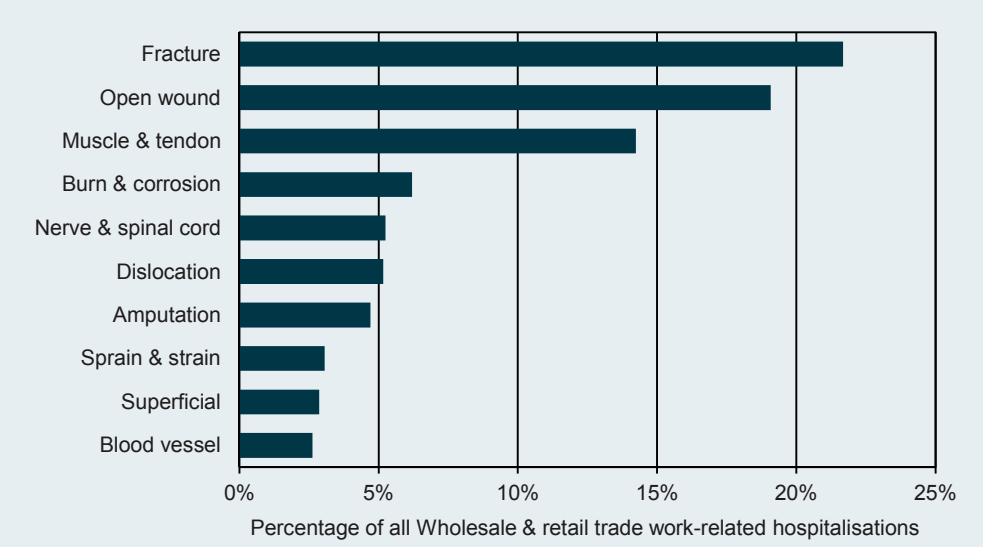

a Combined ABS Labour Force data for Employed people in the ANZSIC 2006 category of Wholesale trade and Retail trade (6291.0.55.003 — datacube ST E05_Aug94_ANZSIC06).

b The number of people in each age/sex grouping is expressed as a percentage of the whole group.

## Type of injury and bodily location

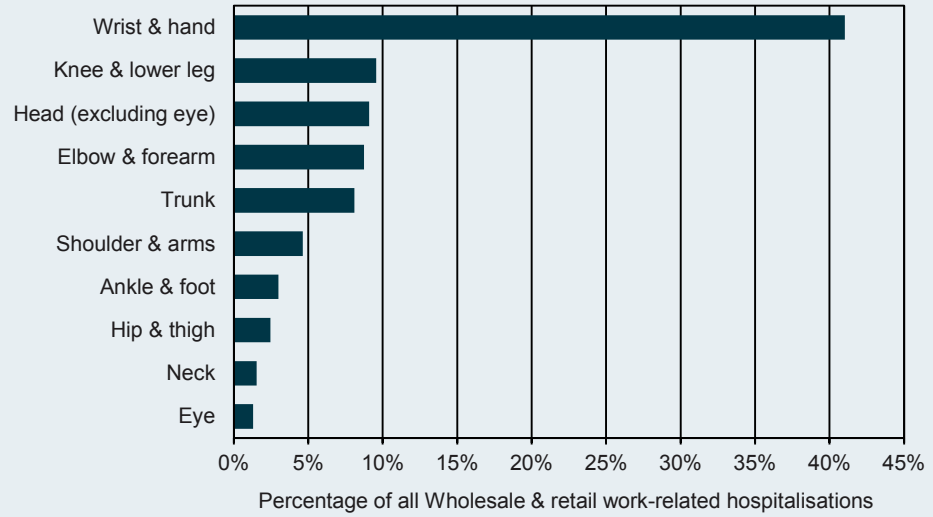
Figure 32 shows the most commonly specified types of injury sustained by Wholesale & retail trade workers hospitalised because of a work-related injury. *Fractures* were the most common type of injury and were responsible for 22% of Wholesale & retail trade hospitalisations over the period June 2006 to July 2009. This is notably lower than the 27% of hospitalisations for *Fractures* found among all work-related hospitalisations. Other common types of injury were *Open wound* (19%) and injuries to *Muscle & tendons* (14%).

***Figure 32*** **Wholesale & retail trade work-related hospitalisations June 2006 to July 2009: percentage of work-related hospitalisations by the most commonly specified types of injury**




NB: These ten most common types of injury together accounted for a total of 85% of Wholesale & retail trade work-related hospitalisations.

***Figure 33*** **Wholesale & retail trade work-related hospitalisations June 2006 to July 2009: percentage of work-related hospitalisations by the most common bodily locations of injury**




NB: These ten most common bodily locations of injury together accounted for a total of 89% of Wholesale & retail trade work-related hospitalisations.

Injuries to the *Wrist & hand* accounted for 41% of Wholesale & retail trade hospitalisations

Figure 33 shows that injuries to the *Wrist & hand* accounted for 41% of hospitalisations of Wholesale & retail trade workers and was the predominant bodily location of injuries. This high proportion of *Wrist & hand* injuries was a trait shared by both the Construction (43%) and Manufacturing (59%) industries. Other common bodily locations included *Knee & lower leg* (10%), *Head* (excluding eye) (9%), *Elbow & forearm* (9%) and *Trunk* (8%).

Slightly more than one-in-ten hospitalisations were for *Open wounds* to the *Wrist & hands*

Table 15 combines the type of injury and the bodily location to show where on the body those injuries most commonly occurred. The table shows all figures as a proportion of all Wholesale & retail trade hospitalisations. Notable combinations are the 13% of hospitalisations for *Open wound* to the *Wrist & hand* and 9% of hospitalisations for *Muscle & tendon* injuries to the *Wrist & Hand.*

Although the table shows both type and location categories as a percentage of all Wholesale & retail trade hospitalisations, the bodily location can easily be recalculated as a percentage of the types of injury. On that basis, the table shows that around one-quarter (27%) of *Fractures* were to the *Wrist & hand* (of which 61% were fractures of the finger/s). Well over half (68%) of *Open wound* injuries were to the *Wrist & hand* (of which 80% were wounds to the finger/s). A similar proportion (64%) of *Muscle & tendon injuries* were to the *Wrist & hand*.

Injuries involving *Amputation* were also nearly all to the *Wrist & hand* (97%), of which 70% were for the amputation of a finger (complete or partial) with a further 9% for two or more fingers (complete or partial).

## *Table 15* Wholesale & retail trade work-related hospitalisations July 2006 to June 2009: percentage of hospitalisations by type of injury and bodily location

| Type of injury and bodily location | Percentage of Wholesale & retail trade work-related hospitalisations | | |
|---|---|---|---|
| | Males | Females | Total |
| Fracture | 20.4% | 24.9% | 21.7% |
| *Wrist & hand* | *6.5%* | *4.1%* | *5.8%* |
| *Elbow & forearm* | *3.3%* | *9.8%* | *5.1%* |
| *Knee & lower leg* | *3.4%* | *4.0%* | *3.5%* |
| *Head (excluding eye)* | *2.4%* | *1.2%* | *2.0%* |
| *Trunk* | *1.3%* | *1.7%* | *1.4%* |
| *Ankle & foot* | *1.5%* | *0.9%* | *1.4%* |
| *Hip & thigh* | *1.2%* | *1.4%* | *1.2%* |
| *Shoulder & arms* | *0.6%* | *1.8%* | *1.0%* |
| Open wound | 21.1% | 13.8% | 19.1% |
| *Wrist & hand* | *14.2%* | *9.6%* | *12.9%* |
| *Head (excluding eye)* | *2.4%* | *1.6%* | *2.2%* |
| *Elbow & forearm* | *1.4%* | *0.4%* | *1.1%* |
| *Knee & lower leg* | *0.7%* | *1.4%* | *0.9%* |
| *Trunk* | *1.2%* | *0.1%* | *0.9%* |
| Muscle & tendon | 15.5% | 10.9% | 14.2% |
| *Wrist & hand* | *10.5%* | *5.7%* | *9.1%* |
| *Shoulder & arms* | *1.7%* | *2.5%* | *1.9%* |
| *Elbow & forearm* | *1.8%* | *0.9%* | *1.5%* |
| Burn & corrosion | 5.8% | 7.2% | 6.2% |
| Nerve & spinal cord | 5.6% | 4.2% | 5.3% |
| *Wrist & hand* | *4.9%* | *3.9%* | *4.6%* |
| Dislocation | 4.4% | 7.1% | 5.2% |
| *Knee & lower leg* | *2.4%* | *4.3%* | *2.9%* |
| *Shoulder & arms* | *0.8%* | *0.8%* | *0.8%* |
| *Trunk* | *0.5%* | *1.2%* | *0.7%* |
| Amputation | 5.1% | 3.7% | 4.7% |
| *Wrist & hand* | *5.0%* | *3.6%* | *4.6%* |
| Sprain & strain | 2.6% | 4.2% | 3.1% |
| *Trunk* | *0.7%* | *1.6%* | *1.0%* |
| *Knee & lower leg* | *0.9%* | *0.9%* | *0.9%* |
| Superficial | 2.4% | 4.0% | 2.9% |
| *Head (excluding eye)* | *0.7%* | *1.4%* | *0.9%* |
| *Wrist & hand* | *0.7%* | *0.6%* | *0.6%* |
| *Trunk* | *0.4%* | *1.1%* | *0.6%* |
| Blood vessel | 3.1% | 1.4% | 2.6% |
| *Wrist & hand* | *2.0%* | *1.3%* | *1.8%* |
| Intracranial | 2.6% | 2.3% | 2.5% |
| *Head (excluding eye)* | *2.6%* | *2.3%* | *2.5%* |
| Poison, toxic effect & bite | 1.5% | 1.6% | 1.5% |
| Other injury | 9.7% | 14.7% | 11.1% |
| **Total** | **100%** | **100%** | **100%** |
| **Wholesale & retail trade work-related hospitalisations July 2006 to June 2009** | **2 700** | **1 000** | **3 700** |

Note: Detailed bodily location categories are only shown to approximately 1% overall representation and exclude smaller location categories. Consequently these bodily location categories do not necessarily sum to the percentage shown for the type of injury category.

# Mining

Over the three-year period July 2006 to June 2009 the Mining industry employed on average 151 000 workers (1.4% of the Australian workforce). During this period the sex ratio of workers in the industry was 6 male workers for each female worker (ABS 2012).

Workers in the Mining industry regularly handle heavy materials with heavy machinery in challenging physical environments — a particularly hazardous combination.

The hazardous nature of Mining work results in relatively high rates of death and injury among workers. Over the period 2003–04 to 2010–11 between 5 and 15 mining workers died annually, resulting in annual fatality rates of between 3.4 and 11.6 fatalities per 100 000 workers (Safe Work Australia 2012a).

Workers' compensation data show there were 13 serious workers' compensation claims per 1000 Mining employees in 2010–11p. This was the eighth highest industry rate and close to the all industries rate of 12.2 serious claims per 1000 employees. Compensation data also identifies a considerable improvement in work health and safety in the Mining industry sector with a 48% decrease in the incidence rate of serious claims between 2000–01 and 2009–10 (Safe Work Australia 2012b).

Over the three-year period July 2006 to June 2009, there were 2070 work-related hospitalisations where the industry sector of the worker was recorded as Mining. However, since industry sector was not recorded for 39% of hospitalisations for a work-related injury, the number of hospitalisations recorded against the Mining industry may be understated.

This section examines the circumstances of the hospitalisation and the characteristics of people that were known to be hospitalised for an injury sustained while working for income in the Mining sector during the three-year period July 2006 to June 2009. For brevity this group is referred to as 'Mining hospitalisations' in the following discussion.

# Causes of injury

Table 16 shows the broad causes of injury among Mining hospitalisations and some of the more common detailed underlying categories. *Exposure to inanimate mechanical forces*, which accounted for half (50%) of all Mining hospitalisations, was the most common broad cause of injury. The two most common underlying categories were *Struck by thrown, projected or falling object* (11%) and *Contact with mining & earth drilling machinery* (11%).

*Falls* accounted for one-in-ten Mining hospitalisations

*Falls* was the second most common broad cause of injury category, accounting for one-in-ten (10%) of all Mining hospitalisations. Within this category the two most common underlying causes were *Other fall from one level to another* (2.8% — this category covers a variety of circumstances but excludes falls from a natural feature, such as a cliff) and an *Unspecified fall* (1.7%).

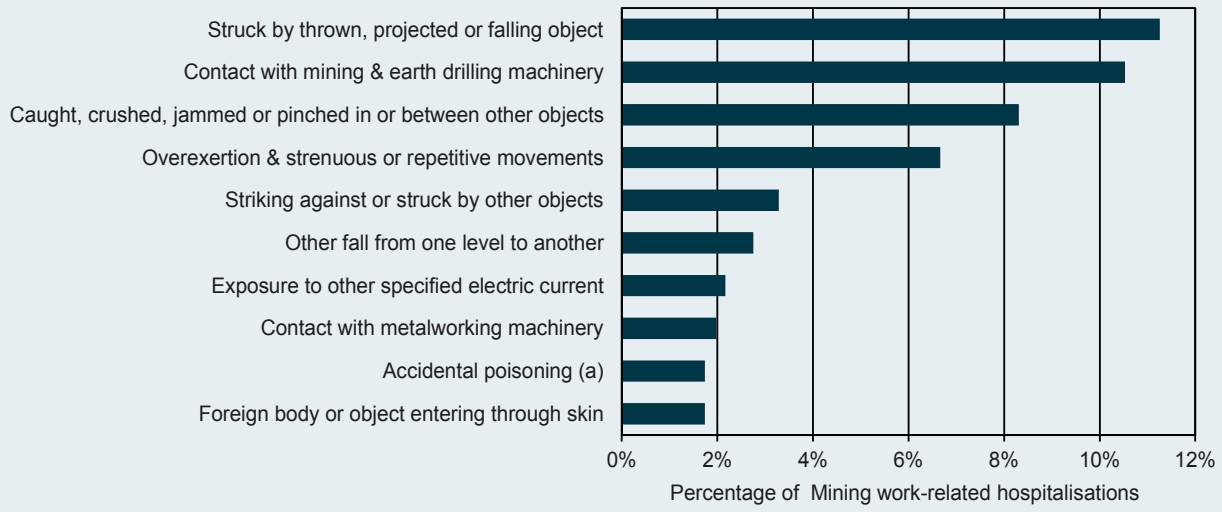
*Transport accidents* was the third most common broad cause of injury category, accounting for 9% of mining workers hospitalised for an injury. Notably, slightly over one-quarter of female mining workers hospitalised for an injury had been involved in a *Transport accident*: mostly as an occupant of a car. However, since there were only 90 Mining hospitalisations involving a woman, this may not be a reliable pattern.

The most common cause of injury was being *Struck by a thrown, projected or falling object*

Figure 34 shows the ten most commonly specified detailed causes of injury among mining workers hospitalised for a work-related injury. The most commonly specified cause, accounting for 11% of Mining hospitalisations, was being *Struck by thrown, projected or falling object*.

Other commonly specified causes included *Contact with mining & earth drilling machinery* (11% of Mining hospitalisations), *Caught, crushed, jammed or pinched in or between other* [than a door] *objects* (8%), *Overexertion & strenuous or repetitive movements* (7%) and *Striking against or struck by other objects* (3.3%).

**Figure 34 Mining work-related hospitalisations June 2006 to July 2009: percentage of hospitalisations by the most commonly specified causes of injury**




a from exposure to other and unspecified chemicals and noxious substances.

Note: These ten specified causes of injury together accounted for a total of 50% of Mining work-related hospitalisations.

## *Table 16* Mining work-related hospitalisations July 2006 to June 2009: percentage of hospitalisations by cause of injury and sex

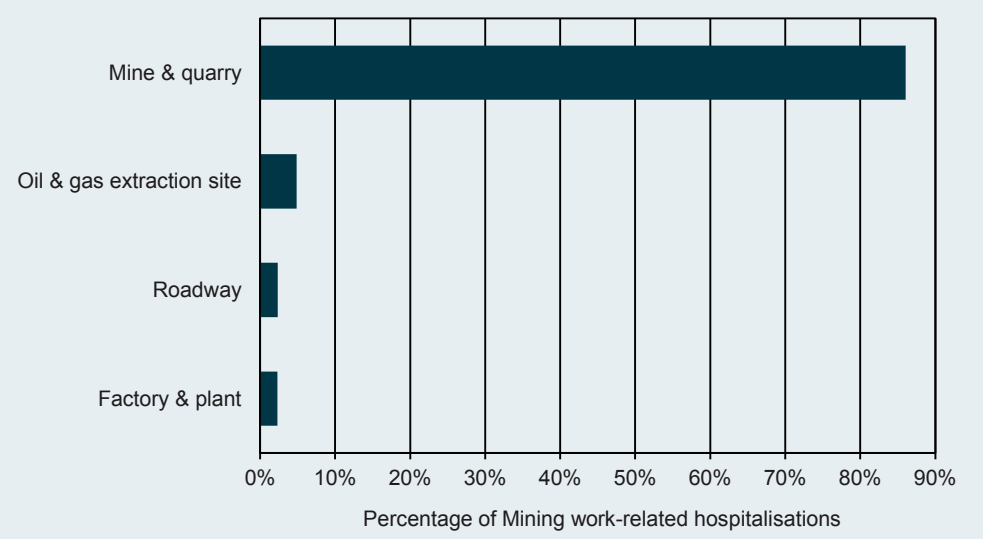
| | Percentage of Mining work-related hospitalisations | | |
|---|---|---|---|
| Cause of injury | Males | Females | Total |
| Exposure to inanimate mechanical forces | 51.7% | 17.2% | 50.2% |
| *Struck by thrown, projected or falling object* | *11.6%* | *3.2%* | *11.3%* |
| *Contact with mining & earth drilling machinery* | *10.9%* | *3.2%* | *10.5%* |
| *Caught, crushed, jammed or pinched in or between other objects* | *8.5%* | *4.3%* | *8.3%* |
| *Striking against or struck by other objects* | *3.4%* | *1.1%* | *3.3%* |
| *Contact with metalworking machinery* | *2.0%* | *1.1%* | *2.0%* |
| *Foreign body or object entering through skin* | *1.8%* | *0.0%* | *1.7%* |
| *Contact with other specified machinery* | *1.6%* | *2.2%* | *1.6%* |
| *Contact with lifting & transmission devices, nec.* | *1.7%* | *0.0%* | *1.6%* |
| *Exposure to other & unspecified inanimate mechanical forces.* | *1.2%* | *1.1%* | *1.2%* |
| *Contact with non-powered hand tool* | *1.2%* | *0.0%* | *1.1%* |
| *Contact with earth-moving, scraping & other excavating machinery* | *1.1%* | *0.0%* | *1.0%* |
| *Contact with unspecified machinery* | *1.1%* | *0.0%* | *1.0%* |
| *Contact with other powered hand tools & household machinery* | *1.0%* | *0.0%* | *1.0%* |
| Falls | 10.4% | 11.8% | 10.4% |
| *Other fall from one level to another* | *2.9%* | *0.0%* | *2.8%* |
| *Unspecified fall* | *1.8%* | *1.1%* | *1.7%* |
| *Fall on same level from slipping* | *1.4%* | *3.2%* | *1.5%* |
| *Fall on same level from tripping* | *1.4%* | *1.1%* | *1.4%* |
| *Fall on & from ladder* | *1.0%* | *0.0%* | *1.0%* |
| Transport accidents | 8.6% | 25.8% | 9.4% |
| *Other land transport accidents* | *4.1%* | *4.3%* | *4.1%* |
| *Driver of special industrial vehicle injured in non-traffic accident* | *1.2%* | *3.2%* | *1.3%* |
| *Driver of special construction vehicle injured in non-traffic accident* | *0.7%* | *0.0%* | *0.7%* |
| *Car occupant injured in transport accident* | *1.9%* | *14.0%* | *2.5%* |
| *Occupant of heavy transport vehicle injured in transport accident* | *1.4%* | *5.4%* | *1.6%* |
| Overexertion, travel & privation | 6.5% | 9.7% | 6.7% |
| Accidental poisoning by exposure to noxious substances | 3.7% | 9.7% | 4.0% |
| Exposure to electric current, radiation & extreme ambient air temperature & pressure | 3.9% | 2.2% | 3.9% |
| *Exposure to other specified electric current* | *2.2%* | *2.2%* | *2.2%* |
| *Exposure to unspecified electric current* | *1.2%* | *0.0%* | *1.2%* |
| *Exposure to electric transmission lines* | *0.5%* | *0.0%* | *0.5%* |
| Exposure to forces of nature | 2.3% | 6.5% | 2.5% |
| *Victim of cataclysmic storm* | *0.8%* | *4.3%* | *0.9%* |
| *Exposure to excessive natural heat* | *0.9%* | *0.0%* | *0.8%* |
| *Victim of avalanche, landslide & other earth movements* | *0.5%* | *2.2%* | *0.6%* |
| Contact with heat & hot substances | 1.7% | 0.0% | 1.6% |
| Exposure to animate mechanical forces | 0.9% | 7.5% | 1.2% |
| *Bitten or crushed by snake, unknown venomous or nonvenomous* | *0.6%* | *3.2%* | *0.7%* |
| Contact with venomous animals & plants | 1.0% | 2.2% | 1.1% |
| Other causes of injury | 9.3% | 7.5% | 9.2% |
| **Total** | **100%** | **100%** | **100%** |
| **Mining work-related hospitalisations July 2006 to June 2009** | **1,980** | **90** | **2,070** |

Note: Detailed sub-categories are generally only shown to approximately 1% overall representation so the sub-categories do not sum to the percentage shown at the broad level.

## Place of occurrence of injury

Figure 35 shows that a *Mine & quarry* was by far the most commonly specified (86%) place of occurrence of injury for patients hospitalised for a work-related injury within the Mining sector and who specified the place of occurrence. The next most commonly specified places of occurrence were *Oil & gas extraction site* (5%) and *Roadway* (2.4%).

***Figure 35*** **Mining work-related hospitalisations June 2006 to July 2009[a]: percentage of hospitalisations by the most commonly specified[b] places of occurrence of injury**




a Where the place of occurrence was specified.
b Shows only specific categories, not other specified and unspecified categories.

Note: These four specific places of occurrence together accounted for a total of 96% of Mining work-related hospitalisations for which place of occurrence was specified.

No place of occurrence was recorded for 5% of hospitalisations for a work-related injury within the Mining sector. This was the lowest proportion of location of incident unspecified of any of the industries covered in this report.

## Age and sex profile of hospitalised workers

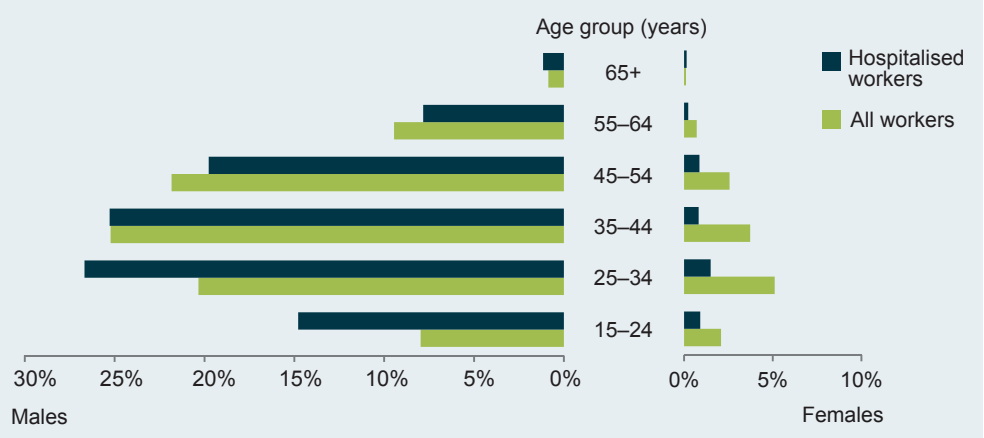
Figure 36 shows the age and sex profile for hospitalised workers in the Mining industry and for all workers employed in the industry (see graph footnote a). The Mining industry is male dominated with a predominately young age profile. On average between June 2006 to July 2009, 64% of workers employed in the sector were aged under 45 years of age and just 11% were aged 55 years or older.

Young male workers were over-represented among Mining hospitalisations while female workers of all ages were under-represented

The age and sex profile shown in Figure 36 highlights that young males in the Mining industry who were hospitalised for a work-related injury were over-represented in comparison to the age and sex distribution of all workers in the industry. Male workers aged 15–24 years accounted for 15% of Mining hospitalisations but represented just 8% of all mining workers.

Conversely, female workers of all ages were considerably under-represented. This pattern is probably related to differences in the type of work carried out by men and women who work in the Mining industry.

***Figure 36*** **Mining work-related hospitalisations and all mining workers[a] June 2006 to July 2009: age and sex profile[b]**



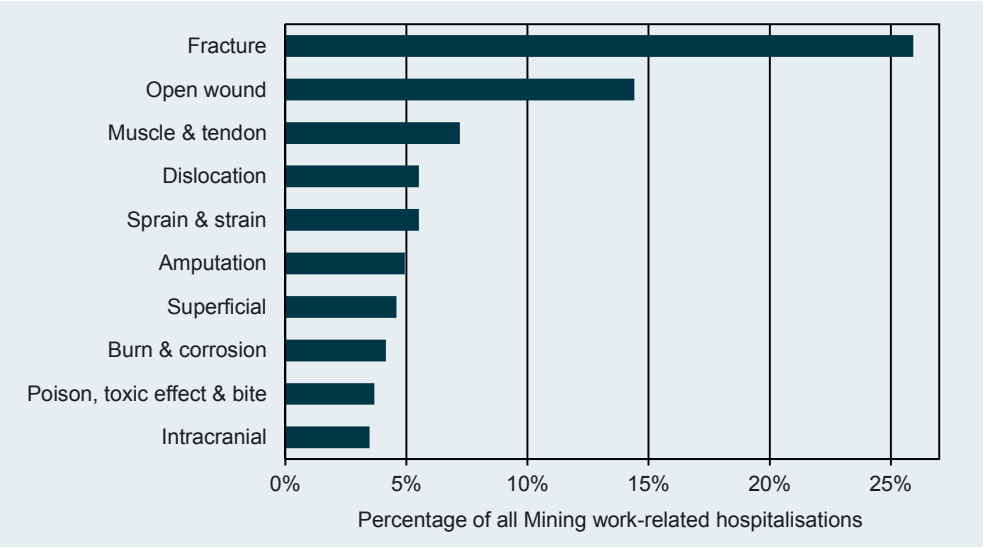

(a) ABS Labour Force data for Employed people (6291.0.55.003 — datacube ST E05_Aug94_ANZSIC06).

(b) The number of people in each age/sex grouping is expressed as a percentage of the whole group.

## Type of injury and bodily location

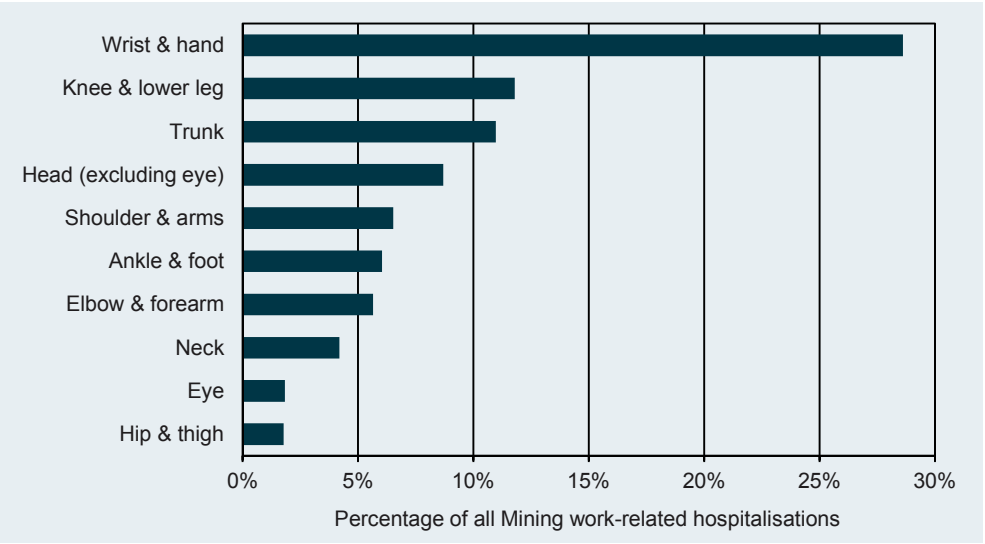
Figure 37 shows the ten most commonly specified types of injury sustained by mining workers hospitalised because of a work-related injury. *Fractures* were responsible for just over one-quarter (26%) of Mining hospitalisations over the period June 2006 to July 2009. Other common types of injury were *Open wound* (14%) and injuries to *Muscle & tendons* (7%).

***Figure 37*** **Mining work-related hospitalisations June 2006 to July 2009: percentage of work-related hospitalisations by the most commonly specified types of injury**




Note: These ten most common types of injury together accounted for a total of 79% of Mining work-related hospitalisations.

***Figure 38*** **Mining work-related hospitalisations June 2006 to July 2009: percentage of work-related hospitalisations by the most common bodily locations of injury**




Note: These ten most common bodily locations of injury together accounted for a total of 86% of Mining work-related hospitalisations.

About three out of ten Mining hospitalisations involved an injury to the *Wrist & hand*

Figure 38 shows the *Wrist & hand* was the most common (29%) bodily location for an injury that hospitalised a mining worker. Although this was also the case among all work-related hospitalisations, the proportion of *Wrist & hand* injuries in the Mining industry was lower than for all hospitalised workers (38%). The next most common bodily location, *Knee & lower leg*, accounted for 12% of Mining hospitalisations.

Table 17 shows a breakdown of the broad type of injury by the bodily location of the injury. The table shows that around one-in-ten hospitalised mining workers sustained a *Fracture* to the *Wrist & hand*. This again highlights the vulnerability of the wrist and hands to injury in industries where much of the work is physical in nature.

## *Table 17* Mining work-related hospitalisations July 2006 to June 2009: percentage of hospitalisations by type of injury and bodily location

| Type of injury and bodily location | Percentage of Mining work-related hospitalisations | | |
|---|---|---|---|
| | Males | Females | Total |
| Fracture | 26.3% | 17.4% | 25.9% |
| *Wrist & hand* | *11.4%* | *1.1%* | *10.9%* |
| *Knee & lower leg* | *3.8%* | *3.3%* | *3.8%* |
| *Trunk* | *2.9%* | *5.4%* | *3.0%* |
| *Ankle & foot* | *2.7%* | *3.3%* | *2.8%* |
| *Elbow & forearm* | *2.6%* | *3.3%* | *2.6%* |
| *Head (excluding eye)* | *1.3%* | *0.0%* | *1.3%* |
| *Shoulder & arms* | *1.0%* | *1.1%* | *1.0%* |
| Open wound | 14.5% | 12.0% | 14.4% |
| *Wrist & hand* | *6.6%* | *4.3%* | *6.5%* |
| *Head (excluding eye)* | *2.6%* | *2.2%* | *2.6%* |
| *Knee & lower leg* | *1.6%* | *2.2%* | *1.6%* |
| *Elbow & forearm* | *1.3%* | *2.2%* | *1.3%* |
| Muscle & tendon | 7.3% | 4.3% | 7.2% |
| *Shoulder & arms* | *2.9%* | *1.1%* | *2.8%* |
| *Wrist & hand* | *1.9%* | *0.0%* | *1.8%* |
| *Elbow & forearm* | *0.8%* | *0.0%* | *0.7%* |
| Sprain & strain | 5.3% | 10.9% | 5.5% |
| *Trunk* | *1.4%* | *1.1%* | *1.4%* |
| *Knee & lower leg* | *1.3%* | *1.1%* | *1.3%* |
| *Neck* | *1.0%* | *3.3%* | *1.1%* |
| Dislocation | 5.5% | 6.5% | 5.5% |
| *Knee & lower leg* | *3.8%* | *4.3%* | *3.8%* |
| *Shoulder & arms* | *0.8%* | *1.1%* | *0.8%* |
| Amputation | 5.0% | 3.3% | 4.9% |
| *Wrist & hand* | *4.5%* | *3.3%* | *4.5%* |
| Superficial | 4.4% | 8.7% | 4.6% |
| *Trunk* | *1.4%* | *4.3%* | *1.5%* |
| *Wrist & hand* | *0.7%* | *1.1%* | *0.7%* |
| Burn & corrosion | 4.2% | 3.3% | 4.2% |
| Poison, toxic effect & bite | 3.4% | 8.7% | 3.7% |
| Intracranial | 3.4% | 4.3% | 3.5% |
| *Head (excluding eye)* | *3.4%* | *4.3%* | *3.5%* |
| Electrical injury | 3.5% | 2.2% | 3.4% |
| Nerve & spinal cord | 2.2% | 0.0% | 2.1% |
| *Wrist & hand* | *1.3%* | *0.0%* | *1.2%* |
| Crush injury | 2.0% | 2.2% | 2.0% |
| *Wrist & hand* | *1.5%* | *0.0%* | *1.4%* |
| Eye injury | 1.9% | 1.1% | 1.8% |
| Internal organ | 0.9% | 1.1% | 0.9% |
| Blood vessel | 0.8% | 0.0% | 0.7% |
| Other causes | 9.4% | 14.1% | 9.6% |
| **Total** | **100%** | **100%** | **100%** |
| **Mining work-related hospitalisations July 2006 to June 2009** | **1 980** | **90** | **2 070** |

Note: Detailed bodily location categories are only shown to approximately 1% overall representation and thus exclude smaller location categories. Consequently these bodily location categories do not necessarily sum to the percentage shown for the type of injury category.

# Health services

Over the three-year period July 2006 to June 2009 the Health care & social assistance[1] industry employed on average 1 108 000 workers (10% of the Australian workforce). Health care & social assistance is traditionally a female dominated industry and during this period the sex ratio of workers in the industry was 4 female workers for each male worker (ABS 2012).

Workers in the Health services industry face numerous hazards, some related to medical conditions of patients and others to the physical difficulties of assisting patients.

Over the period 2003–04 to 2010–11 between 1 and 6 Health care & social assistance workers died annually, resulting in work-related fatality rates over the period that were well below the all industries rates (Safe Work Australia 2012a).

Workers' compensation data show there were 13.8 serious workers' compensation claims per 1000 Health & community services employees in 2010–11p, This rate was only slightly higher than the all industries rate of 12.2 serious claims per 1000 employees. Compensation data also identifies an improvement in work health and safety in the Health & community services industry sector with a 19% decrease in the incidence rate of serious claims between 2000–01 and 2009–10 (Safe Work Australia 2012b).

Over the three-year period July 2006 to June 2009, there were 1400 work-related hospitalisations where the industry sector of the worker was recorded as Health services. However, since industry sector was not recorded for 39% of hospitalisations for a work-related injury, the number of hospitalisations recorded against the Health services industry may be understated.

This section examines the circumstances of the hospitalisation and the characteristics of people that were known to be hospitalised for an injury sustained while working for income in the Health services sector during the three-year period July 2006 to June 2009. For brevity this group is referred to as 'Health services hospitalisations' in the following discussion.

1. 'Health care & social assistance' is the current Australian and New Zealand Standard Industrial Classification (ANZSIC) 2006 equivalent to the ANZSIC 1993 industry group 'Health & community services' currently used for workers' compensation data. The underlying categories are mainly the same. 'Health services', the activity code used in the ICD-10-AM coding manual, is not strictly comparable to the ANZSIC 1993 codes since it excludes community services such as Child care.

# Causes of injury

Three out of ten Health services hospitalisations involved a fall

Table 18 shows the broad causes of injury among Health services hospitalisations and the more common underlying categories. *Falls*, which accounted for three out of ten (29%) hospitalisations of health service workers was the most common broad cause of injury. The two most common underlying categories were *Fall on the same level from slipping* (9%) and *Fall on the same level from tripping* (6%).

The second most common broad cause of injury was *Overexertion, travel & privation* (17%), all of which were for *Overexertion and strenuous or repetitive movements*.

Although at the broad level *Exposure to inanimate mechanical forces* was the third most common broad cause of injury, accounting for 15% of Health services hospitalisations, the underlying categories were quite varied. The most common was *Striking against or struck by other objects* (2.6%).

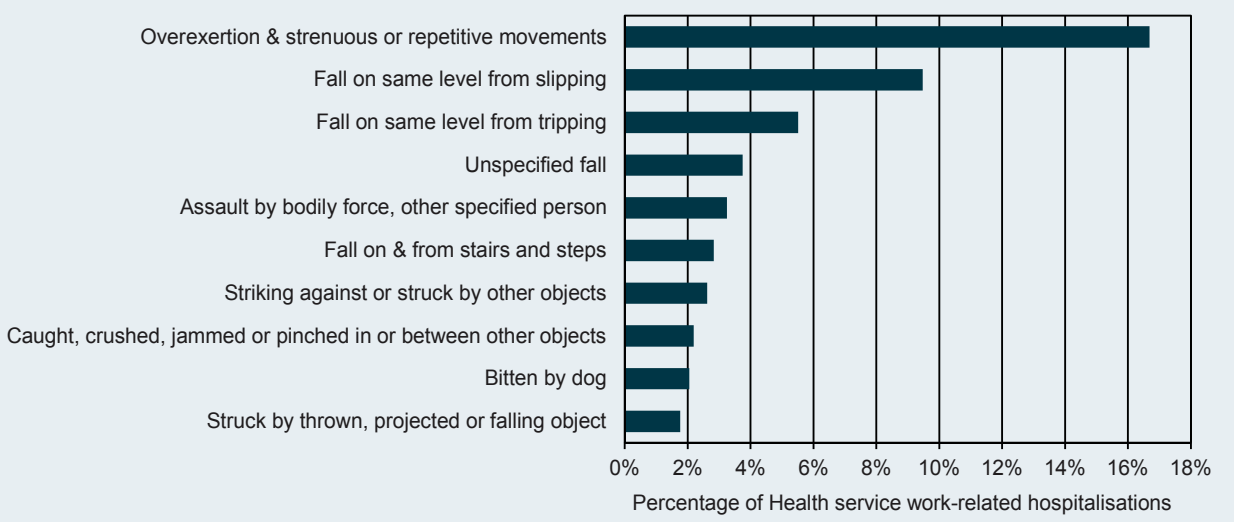
One notable distributional difference between male and female health service workers hospitalised for a work-related injury was that females were more likely to have been injured by a *Fall* than males: three out of ten (33%) hospitalisations compared to two out of ten (20%) hospitalisations respectively. Conversely, the sex difference was reversed for the category *Exposure to inanimate mechanical forces* with 20% of male hospitalised health service workers compared to 13% of females.

Body stressing was the commonest single cause of injury

Figure 39 shows the ten most commonly specified detailed causes of injury among health services workers hospitalised for a work-related injury. The most commonly specified cause, accounting for 17% of Health services hospitalisations, was *Overexertion & strenuous or repetitive movements* which is a classification often referred to as body stressing.

Other commonly specified causes included *Fall on the same level from slipping* (9%), *Fall on the same level from tripping* (6%), *Unspecified fall* (3.7%) and *Assault by bodily force, other specified person* (3.3%).

***Figure 39*** **Health services work-related hospitalisations June 2006 to July 2009: percentage of hospitalisations by the ten most commonly specified causes of injury**




Note: These ten specified causes of injury together accounted for a total of 50% of Health services work-related hospitalisations.

## *Table 18* Health services work-related hospitalisations July 2006 to June 2009: percentage of hospitalisations by cause of injury and sex

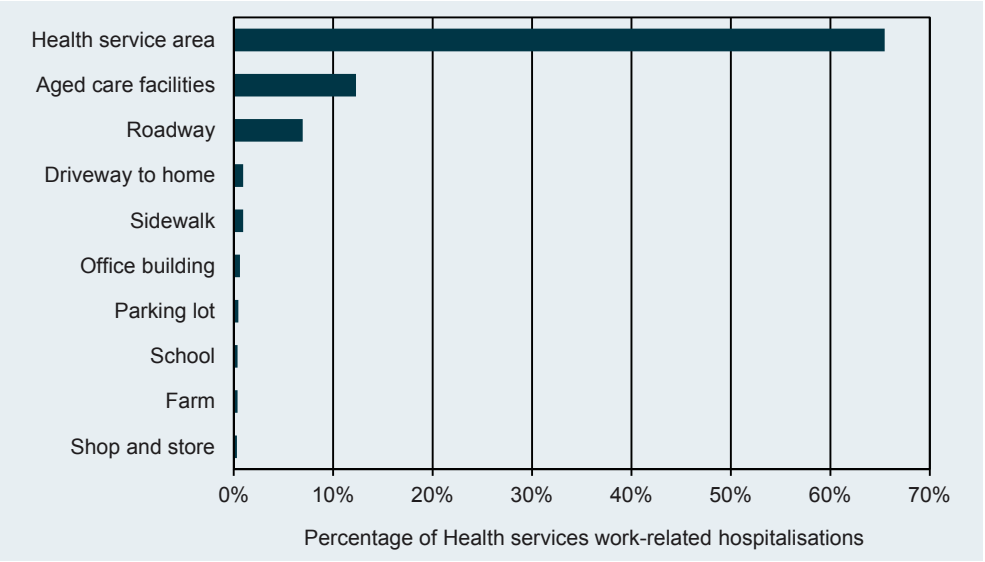
| | Percentage of Health services work-related hospitalisations | | |
|---|---|---|---|
| Cause of injury | Males | Females | Total |
| Falls | 20.4% | 32.5% | 29.1% |
| *Fall on same level from slipping* | *5.1%* | *11.2%* | *9.5%* |
| *Fall on same level from tripping* | *3.6%* | *6.3%* | *5.5%* |
| *Unspecified fall* | *2.8%* | *4.1%* | *3.7%* |
| *Fall on & from stairs & steps* | *1.0%* | *3.5%* | *2.8%* |
| *Unspecified fall on same level* | *0.8%* | *1.9%* | *1.6%* |
| *Other specified fall on same level* | *1.8%* | *1.0%* | *1.2%* |
| *Fall on & from stairs & steps* | *1.0%* | *0.7%* | *0.8%* |
| Overexertion, travel & privation | 17.6% | 16.3% | 16.7% |
| *Overexertion & strenuous or repetitive movements* | *17.6%* | *16.3%* | *16.7%* |
| Exposure to inanimate mechanical forces | 20.2% | 12.9% | 14.9% |
| *Striking against or struck by other objects* | *2.6%* | *2.6%* | *2.6%* |
| *Caught, crushed, jammed or pinched in or between other objects* | *3.1%* | *1.9%* | *2.2%* |
| *Struck by thrown, projected or falling object* | *2.3%* | *1.6%* | *1.8%* |
| *Contact with knife, sword or dagger* | *1.5%* | *1.5%* | *1.5%* |
| *Foreign body or object entering through skin* | *2.0%* | *0.5%* | *0.9%* |
| *Contact with non-powered hand tool* | *1.3%* | *0.8%* | *0.9%* |
| Exposure to animate mechanical forces | 5.9% | 7.4% | 7.0% |
| *Bitten by dog* | *1.8%* | *2.2%* | *2.1%* |
| *Hit, struck, kicked, twisted, bitten or scratched by another person* | *1.0%* | *1.8%* | *1.6%* |
| *Bitten or struck by cat* | *0.5%* | *1.9%* | *1.5%* |
| *Bitten or struck by horse* | *2.3%* | *0.3%* | *0.8%* |
| Transport accidents | 8.4% | 6.2% | 6.8% |
| *Car occupant injured in transport accident* | *2.3%* | *4.2%* | *3.7%* |
| *Pedal cyclist injured in transport accident* | *2.6%* | *0.9%* | *1.3%* |
| Assault | 7.1% | 4.6% | 5.3% |
| *Assault by bodily force, other specified person* | *4.1%* | *2.9%* | *3.3%* |
| *Assault by bodily force, person unknown to the victim* | *0.8%* | *0.2%* | *0.4%* |
| Accidental poisoning by & exposure to noxious substances | 2.3% | 2.7% | 2.6% |
| *Accidental poisoning by & exposure to other & unspecified chemicals & noxious substances* | *1.0%* | *0.9%* | *0.9%* |
| *Accidental poisoning by & exposure to other & unspecified drugs, medicaments & biological substances* | *0.3%* | *0.6%* | *0.5%* |
| Exposure to electric current, radiation & extreme ambient air temperature & pressure | 1.8% | 2.2% | 2.1% |
| *Exposure to other specified electric current* | *1.5%* | *1.4%* | *1.4%* |
| *Exposure to unspecified electric current* | *0.3%* | *0.6%* | *0.5%* |
| Exposure to forces of nature | 3.8% | 0.1% | 1.1% |
| *Exposure to excessive natural cold* | *3.8%* | *0.0%* | *1.1%* |
| Contact with venomous animals & plants | 1.0% | 1.0% | 1.0% |
| Contact with heat & hot substances | 0.3% | 1.0% | 0.8% |
| Other causes of injury | 11.2% | 13.1% | 12.6% |
| **Total** | **100%** | **100%** | **100%** |
| **Health services work-related hospitalisations July 2006 to June 2009** | **400** | **1 000** | **1 400** |

Note: Detailed sub-categories are generally only shown to approximately 1% overall representation so the sub-categories do not sum to the percentage shown at the broad level.

# Place of occurrence of injury

Figure 40 shows that a *Health service area* was by far the most commonly specified (65%) place of occurrence of injury for patients hospitalised for a work-related injury within the Health services sector and who specified the place of occurrence. The next most commonly specified places of occurrence were *Aged care facilities* (12%) and *Roadway* (7%).

***Figure 40*** **Health services work-related hospitalisations June 2006 to July 2009[a]: percentage of hospitalisations by the ten most commonly specified[b] places of occurrence of injury**




a Where the place of occurrence was specified.
b Shows only specific categories, not other specified and unspecified categories.

Note: These specific places of occurrence together accounted for a total of 89% of Health services work-related hospitalisations for which place of occurrence was specified.

No place of occurrence was recorded for 10% of hospitalisations for a work-related injury within the Health services sector. This missing information means the pattern reported here may be different to the pattern that would have been observed if the place of occurrence had been recorded for all patients.

# Age and sex profile of hospitalised workers

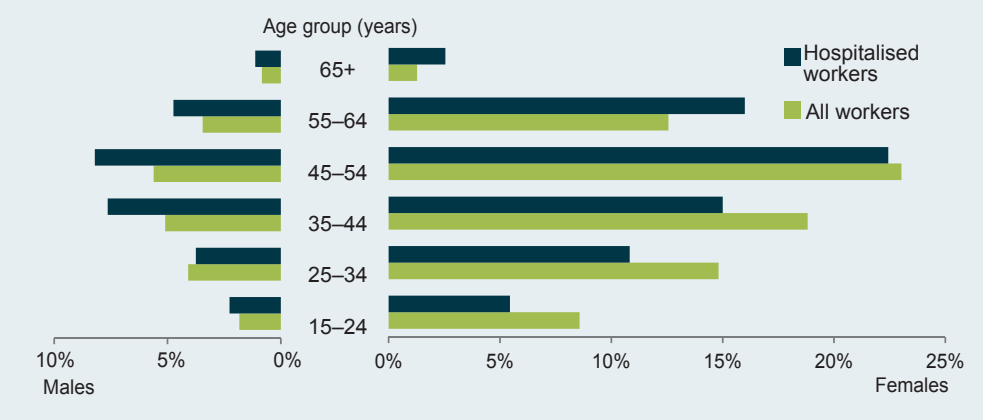
Figure 41 shows the age and sex profile for hospitalised workers in the Health services industry and for all workers employed in the industry (see footnote on page 67). The workers' distribution clearly shows the Health services industry is female-dominated with a slightly older age profile than average. On average, 53% of workers employed in the sector between June 2006 to July 2009 were aged under 45 years of age and 18% were aged 55 years or older.

Among hospitalised health services workers younger females were under-represented while older males and women were over-represented

Comparison of the distribution of hospitalised workers to the distribution of all workers shows female workers aged under 55 years were under-represented among Health services hospitalisations. Females aged over 55 years were slightly over-represented — as were male workers aged over 34 years.

The over-representation of males, particularly in the middle age groups of 35–44 years and 45–54 years, is probably related to related to differences

***Figure 41*** **Health services work-related hospitalisations and all health services workers[a] June 2006 to July 2009: age and sex profile[b]**




a ABS Labour Force data for Employed people (6291.0.55.003 — datacube ST E05_Aug94_ANZSIC06).

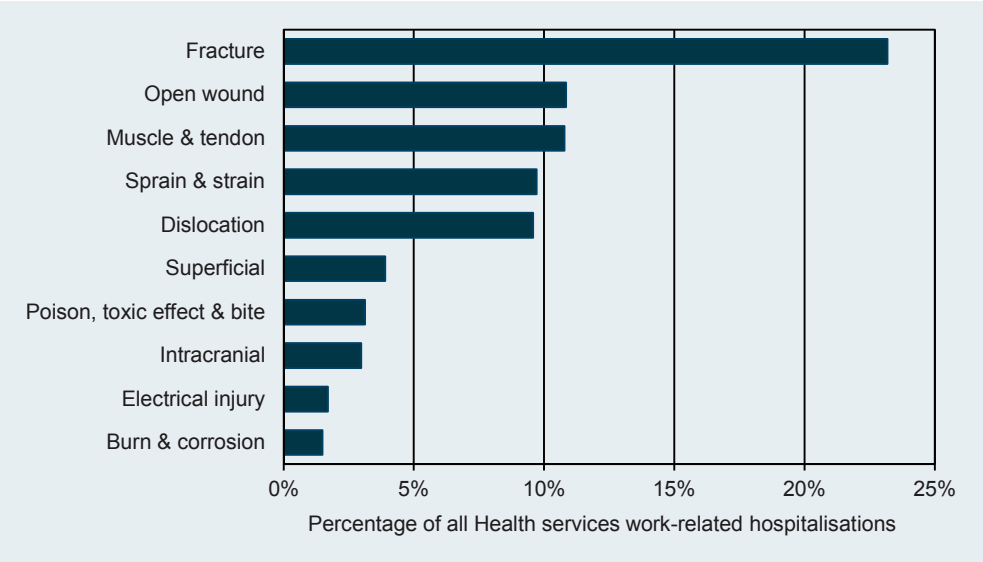
b The number of people in each age/sex grouping is expressed as a percentage of the whole group.

in the type of work carried out by men and women in the Health services industry. However, the reader should note that the relatively small number of male Health services hospitalisations over the period increases the chance that this pattern is not typical.

## Type of injury and bodily location

Figure 42 shows the most commonly specified types of injury sustained by health services workers hospitalised because of a work-related injury. *Fractures* were the most common, being responsible for just under one-quarter (23%) of Health services hospitalisations over the period June 2006 to July 2009. Other common types of injury were *Open wound* (11%) and injuries to *Muscle & tendons* (11%). Both *Sprain & strain* and *Dislocation* injuries accounted for 10% of Health services hospitalisations each.

***Figure 42*** **Health services work-related hospitalisations June 2006 to July 2009: percentage of work-related hospitalisations by the ten most commonly specified types of injury**




Note: These ten most common types of injury together accounted for a total of 77% of Health services work-related hospitalisations.

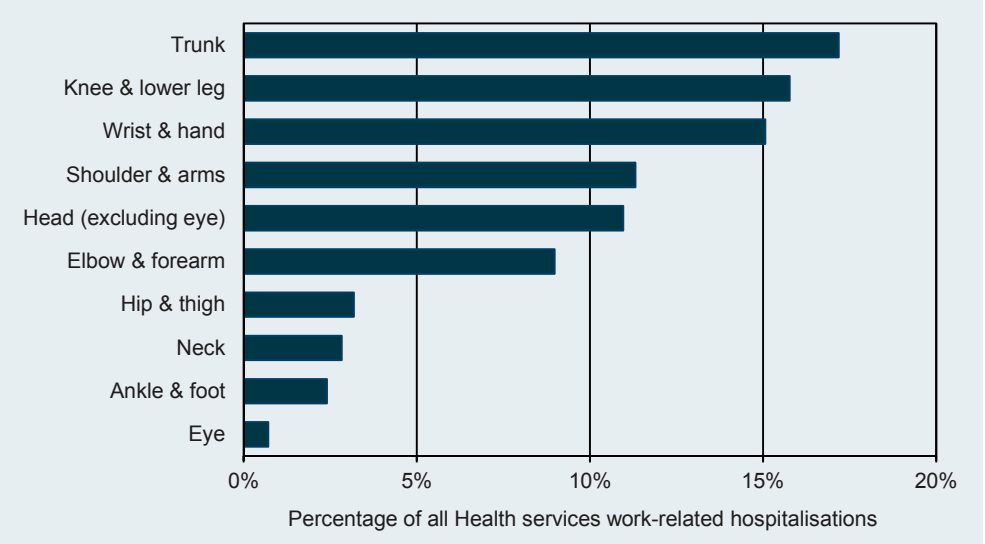
*Wrist & hand* injuries were less common among hospitalised health service workers

Figure 43 shows the *Trunk* was the most common (17%) bodily location for an injury resulting in a Health services hospitalisation. The next most common bodily location, *Knee & lower leg*, accounted for 16% of Health services hospitalisations. Notably injuries to the *Wrist & hand* which were very common within the other industries examined accounted for just 15% of Health services hospitalisations. In comparison the percentage of *Wrist & hand* injuries was as high as 59% among Manufacturing hospitalisations (see page 35).

Table 19 shows a breakdown of the broad type of injury by the bodily location of the injury. This table shows the bodily location of *Fractures,* the most common type of injury, was quite varied: the most common location being the *Elbow & forearm* (30% of *Fractures*). However, nearly two-thirds (64%) of injuries involving an *Open wound* were to the *Wrist & hand*.

There were no notable differences in the type and bodily location of injuries between male and female Health services hospitalisations.

***Figure 43*** **Health services work-related hospitalisations June 2006 to July 2009: percentage of work-related hospitalisations by the ten most common bodily locations of injury**




Note: These ten most common bodily locations of injury together accounted for a total of 88% of Health services work-related hospitalisations.

## *Table 19* Health services work-related hospitalisations July 2006 to June 2009: percentage of hospitalisations by type of injury and bodily location

| | Percentage of Health services work-related hospitalisations | | |
|---|---|---|---|
| Type of injury and bodily location | Males | Females | Total |
| Fracture | 21.0% | 24.0% | 23.2% |
| *Elbow & forearm* | *3.8%* | *8.4%* | *7.2%* |
| *Knee & lower leg* | *5.1%* | *5.4%* | *5.3%* |
| *Wrist & hand* | *4.4%* | *2.2%* | *2.8%* |
| *Trunk* | *2.3%* | *2.0%* | *2.1%* |
| *Shoulder & arms* | *1.3%* | *2.3%* | *2.0%* |
| *Head (excluding eye)* | *2.1%* | *1.3%* | *1.5%* |
| *Hip & thigh* | *1.5%* | *1.4%* | *1.4%* |
| *Ankle & foot* | *0.0%* | *1.1%* | *0.8%* |
| Open wound | 12.8% | 10.1% | 10.9% |
| *Wrist & hand* | *7.9%* | *6.9%* | *7.2%* |
| *Head (excluding eye)* | *2.6%* | *2.1%* | *2.2%* |
| *Elbow & forearm* | *0.8%* | *0.6%* | *0.6%* |
| Muscle & tendon | 12.8% | 10.0% | 10.8% |
| *Shoulder & arms* | *6.7%* | *5.7%* | *6.0%* |
| *Wrist & hand* | *1.5%* | *1.2%* | *1.3%* |
| *Trunk* | *1.8%* | *1.0%* | *1.2%* |
| *Hip & thigh* | *0.8%* | *0.7%* | *0.7%* |
| Sprain & strain | 10.3% | 9.5% | 9.7% |
| *Trunk* | *3.1%* | *3.8%* | *3.6%* |
| *Knee & lower leg* | *2.8%* | *2.2%* | *2.3%* |
| *Shoulder & arms* | *2.3%* | *1.4%* | *1.6%* |
| *Neck* | *1.0%* | *0.6%* | *0.7%* |
| Dislocation | 10.0% | 9.4% | 9.6% |
| *Knee & lower leg* | *5.9%* | *5.5%* | *5.6%* |
| *Trunk* | *1.5%* | *1.9%* | *1.8%* |
| *Shoulder & arms* | *1.0%* | *0.8%* | *0.9%* |
| *Wrist & hand* | *1.3%* | *0.5%* | *0.7%* |
| Superficial | 4.6% | 3.6% | 3.9% |
| *Head (excluding eye)* | *1.0%* | *1.0%* | *1.0%* |
| *Trunk* | *1.3%* | *0.8%* | *0.9%* |
| *Knee & lower leg* | *0.8%* | *0.6%* | *0.6%* |
| Poison, toxic effect & bite | 2.6% | 3.3% | 3.1% |
| Intracranial | 1.8% | 3.4% | 3.0% |
| Electrical injury | 1.5% | 1.8% | 1.7% |
| Burn & corrosion | 1.0% | 1.7% | 1.5% |
| Nerve & spinal cord | 0.5% | 1.6% | 1.3% |
| Amputation | 1.3% | 1.3% | 1.3% |
| Internal organ | 1.3% | 0.9% | 1.0% |
| Eye injury | 0.5% | 0.8% | 0.7% |
| Blood vessel | 1.8% | 0.1% | 0.6% |
| Other injury | 16.2% | 18.5% | 17.9% |
| **Total** | **100%** | **100%** | **100%** |
| **Health services work-related hospitalisations July 2006 to June 2009** | **400** | **1 000** | **1 400** |

Note: Detailed bodily location categories are only shown to approximately 1% overall representation and exclude smaller location categories. Consequently these bodily location categories do not necessarily sum to the percentage shown for the type of injury category.

# Part C
## Main external causes of injury
work-related hospitalisations
July 2006 to June 2009

The *International Statistical Classification of Diseases and Related Health Problems* (ICD-10-AM) allows for very detailed coding of the cause of the injury that resulted in hospitalisation. These codes are called *External causes of morbidity and mortality*, with the reference to 'external' indicting the cause was external to the body rather than due to disease.

This section examines in more detail the three most common broad external causes of work-related hospitalisations over the period July 2006 to June 2009. They are:

- Exposure to inanimate mechanical forces
- Falls, and
- Transport accidents.

# Exposure to inanimate mechanical forces

In the ICD-10-AM coding system *Exposure to inanimate mechanical forces* (W20–W49) are a subset of *Other external causes of injury* (W00–W19). Broadly speaking the category is assigned to injuries caused by being struck, pinched or crushed by machinery or objects that are not living: such as falling rocks, projectiles, moving machinery and sharp objects. Injuries due to self-harm are excluded, as are assaults or other contacts or collisions with persons or animals. Injuries caused by being struck by a vehicle are also excluded since they fall under *Transport accidents.*

**Injuries caused by *Inanimate mechanical forces* were responsible for nearly half (46%) of the 73 400 hospitalisations known to be work-related over the three year period July 2006 to June 2009**

# Bodily location of injury

Table 20 shows those hospitalisations caused by *Inanimate mechanical forces* broken down into more detailed underlying sub-categories with the most common bodily locations then nested underneath (please note that the figures are all expressed as percentages of the total number of *Inanimate mechanical forces* hospitalisations).

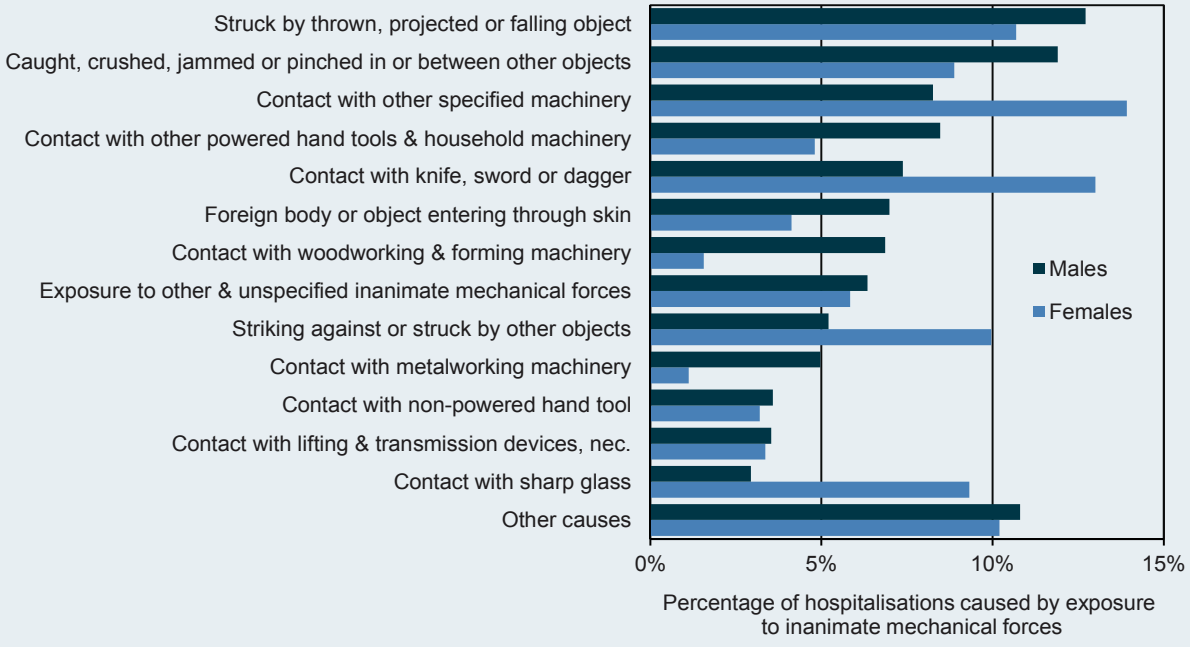
The most common detailed cause of injury, accounting for 13% of hospitalisations caused by inanimate mechanical forces, was being *Struck by thrown, projected or falling object*. The bodily location of injuries arising from this cause were quite varied, reflecting the broad nature of incidents that would be covered under the category.

Because being *Struck by thrown, projected or falling object* as a cause of injury can be external to the task at hand of the worker, particularly in the case of falling objects, injuries to the *Wrist & hand* was not such a dominant bodily location as it was for other causes of injury categories.

Far more males than females were hospitalised for injuries caused by *Exposure to inanimate mechanical forces*

One particularly notable aspect of hospitalisations caused by *Inanimate mechanical forces* is that male workers who were hospitalised out-numbered female workers in the ratio of 12.5 injured men for each injured woman. This male predominance probably reflects that men are generally more likely than women to work with machines that are capable of exerting hazardous levels of force. This is supported by the distribution by sex of causes of injury across some of the detailed underlying categories shown in Figure 44. Greater proportions of males than females were hospitalised when machinery was involved, such as after *Contact with other powered hand-tools and household machinery*, *Contact with woodworking and forming machinery* and *Contact with metalworking machinery*. These three categories are commonly associated with male dominated industries and together accounted for 20% of male hospitalisations compared with 8% of

***Figure 44*** **Work-related hospitalisations July 2006 to June 2009 caused by exposure to inanimate mechanical forces: detailed underlying categories[a] by sex**




a Categories are ranked on the basis of all hospitalisations caused by exposure to inanimate mechanical forces.

## *Table 20* Work-related hospitalisations July 2006 to June 2009 caused by exposure to inanimate mechanical forces: percentage of hospitalisations by cause of injury and bodily location

| | Percentage of work-related hospitalisations involving inanimate mechanical force | | |
|---|---|---|---|
| Cause of injury and bodily location | Males | Females | Total |
| Struck by thrown, projected or falling object | 12.7% | 10.7% | 12.6% |
| *Wrist & hand* | *3.8%* | *1.6%* | *3.6%* |
| *Head (excluding eye)* | *2.4%* | *3.6%* | *2.5%* |
| *Knee & lower leg* | *1.8%* | *0.6%* | *1.7%* |
| *Ankle & foot* | *1.3%* | *2.0%* | *1.4%* |
| *Trunk* | *1.0%* | *1.4%* | *1.0%* |
| Caught, crushed, jammed or pinched in or between other objects | 11.9% | 8.9% | 11.7% |
| *Wrist & hand* | *10.0%* | *6.7%* | *9.7%* |
| Contact with other specified machinery | 8.3% | 13.9% | 8.7% |
| *Wrist & hand* | *6.4%* | *12.4%* | *6.8%* |
| Contact with other powered hand tools & household machinery | 8.5% | 4.8% | 8.2% |
| *Wrist & hand* | *6.0%* | *4.2%* | *5.8%* |
| *Elbow & forearm* | *0.7%* | *0.2%* | *0.7%* |
| Contact with knife, sword or dagger | 7.4% | 13.0% | 7.8% |
| *Wrist & hand* | *5.6%* | *11.4%* | *6.0%* |
| *Elbow & forearm* | *0.8%* | *1.1%* | *0.8%* |
| Foreign body or object entering through skin | 7.0% | 4.1% | 6.8% |
| *Wrist & hand* | *4.9%* | *3.0%* | *4.8%* |
| *Knee & lower leg* | *0.6%* | *0.5%* | *0.6%* |
| Contact with woodworking and forming machinery | 6.9% | 1.6% | 6.5% |
| *Wrist & hand* | *5.9%* | *1.5%* | *5.6%* |
| Striking against or struck by other objects | 5.2% | 10.0% | 5.6% |
| *Wrist & hand* | *2.0%* | *1.4%* | *2.0%* |
| *Head (excluding eye)* | *1.3%* | *4.6%* | *1.5%* |
| Contact with metalworking machinery | 5.0% | 1.1% | 4.7% |
| *Wrist & hand* | *3.8%* | *0.9%* | *3.5%* |
| Contact with non-powered hand tool | 3.6% | 3.2% | 3.5% |
| *Wrist & hand* | *2.9%* | *2.8%* | *2.9%* |
| Contact with lifting & transmission devices, nec. | 3.5% | 3.4% | 3.5% |
| *Wrist & hand* | *1.6%* | *1.4%* | *1.6%* |
| Contact with sharp glass | 2.9% | 9.3% | 3.4% |
| *Wrist & hand* | *2.1%* | *7.6%* | *2.5%* |
| Foreign body entering into or through eye or natural orifice | 2.0% | 0.8% | 1.9% |
| *Eye* | *1.9%* | *0.4%* | *1.8%* |
| Caught, crushed, jammed or pinched in or between door | 0.9% | 3.4% | 1.1% |
| *Wrist & hand* | *0.8%* | *3.2%* | *0.9%* |
| Contact with mining & earth drilling machinery | 0.9% | 0.1% | 0.8% |
| *Wrist & hand* | *0.5%* | *0.0%* | *0.5%* |
| Contact with earth-moving, scraping & other excavating machinery | 0.9% | 0.2% | 0.8% |
| Contact with other specified agricultural machinery | 0.8% | 0.8% | 0.8% |
| *Wrist & hand* | *0.4%* | *0.4%* | *0.4%* |
| Explosion of other materials | 0.5% | 0.5% | 0.5% |
| Contact with unspecified agricultural machinery | 0.5% | 0.4% | 0.5% |
| Other inanimate forces | 10.7% | 9.8% | 10.6% |
| **Total** | **100%** | **100%** | **100%** |
| **Work-related hospitalisations July 2006 to June 2009 involving inanimate mechanical forces** | **31 200** | **2 500** | **33 700** |

Note: Detailed bodily location categories are only shown to approximately 1% overall representation and thus exclude smaller location categories. Consequently the nested bodily location categories do not necessarily sum to the percentage shown for the cause of injury category.

female hospitalisations. However, Figure 44 also shows that a notably greater proportion of women than men were injured by *Contact with knife, sword or dagger* (i.e. a sharp blade), *Striking against or struck by other objects* and *Contact with sharp glass.*

## Place of occurrence

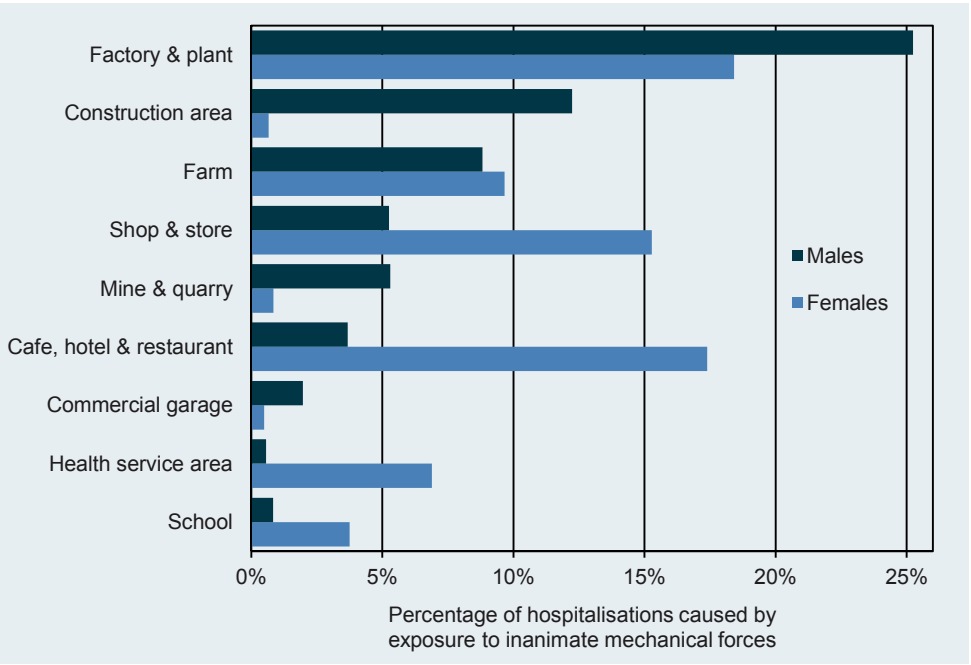
Table 21 shows hospitalisations caused by exposure to inanimate mechanical forces disaggregated by the Place of occurrence and nested by the Cause of injury. This arrangement helps identify the most common causes of injury at the most common places at which the injury occurred. Figure 45 shows the most common places at which injuries caused by exposure to inanimate mechanical forces occurred.

One-quarter of hospitalisations caused by *Exposure to inanimate mechanical forces* occurred at a *Factory & plant*

Overall, one-quarter of all work-related hospitalisations caused by *Exposure to inanimate mechanical forces* (for which a place of occurrence was given) the place of occurrence was recorded as *Factory & plant*. This high proportion reflects the fact that around 10% of Australian workers are employed in the Manufacturing sector and would have a high likelihood of exposure to machinery. The detailed underlying causes of injury among hospitalised factory workers were quite varied, though categories clearly involving machinery accounted for nearly half the hospitalisations.

Figure 45 shows that hospitalisations caused by *Exposure to inanimate mechanical forces* where the place of occurrence was recorded as *Factory & plant* accounted for 25% of male and 18% of female hospitalisations.

***Figure 45*** **Work-related hospitalisations July 2006 to June 2009 caused by exposure to inanimate mechanical forces: most commonly specified[a] place of occurrence of injury by sex**




a Shows only specific categories ranked on the basis of all hospitalisations caused by exposure to inanimate mechanical forces. Categories where the place of occurrence was 'other specified ...' and 'unspecified ...' are not shown.

Note: These nine places of occurrence together accounted for a total of 66% of male and 74% of female work-related hospitalisations caused by exposure to inanimate mechanical forces.

## *Table 21* Work-related hospitalisations July 2006 to June 2009 caused by exposure to inanimate mechanical forces: percentage of hospitalisations by place of occurrence[a] and cause of injury

| | Percentage of work-related hospitalisations involving inanimate mechanical force | | |
|---|---|---|---|
| Place of occurrence by cause of injury | Males | Females | Total |
| Factory & plant | 25.2% | 18.4% | 24.6% |
| *Contact with other specified machinery* | *3.3%* | *6.8%* | *3.6%* |
| *Contact with metalworking machinery* | *3.2%* | *0.7%* | *3.0%* |
| *Struck by thrown, projected or falling object* | *3.1%* | *1.1%* | *2.9%* |
| *Caught, crushed, jammed or pinched in or between other objects* | *2.9%* | *1.0%* | *2.7%* |
| *Contact with woodworking & forming machinery* | *2.5%* | *0.8%* | *2.3%* |
| *Contact with knife, sword or dagger* | *1.7%* | *1.6%* | *1.7%* |
| *Foreign body or object entering through skin* | *1.5%* | *0.3%* | *1.4%* |
| *Contact with lifting & transmission devices, nec.* | *1.3%* | *1.9%* | *1.3%* |
| *Exposure to other & unspecified inanimate mechanical forces* | *1.1%* | *0.8%* | *1.1%* |
| *Contact with other powered hand tools & household machinery* | *1.1%* | *0.7%* | *1.0%* |
| Construction area | 12.2% | 0.7% | 11.2% |
| *Struck by thrown, projected or falling object* | *2.3%* | *0.1%* | *2.1%* |
| *Contact with other powered hand tools & household machinery* | *1.8%* | *0.1%* | *1.6%* |
| *Foreign body or object entering through skin* | *1.5%* | *0.2%* | *1.3%* |
| *Contact with woodworking & forming machinery* | *1.4%* | *0.1%* | *1.3%* |
| *Caught, crushed, jammed or pinched in or between other objects* | *1.1%* | *0.0%* | *1.0%* |
| Farm | 8.8% | 9.7% | 8.9% |
| *Caught, crushed, jammed or pinched in or between other objects* | *1.4%* | *2.4%* | *1.5%* |
| *Contact with other specified agricultural machinery* | *1.1%* | *0.5%* | *1.0%* |
| *Struck by thrown, projected or falling object* | *0.9%* | *1.5%* | *1.0%* |
| *Contact with knife, sword or dagger* | *0.9%* | *0.7%* | *0.9%* |
| Shop & store | 5.3% | 15.3% | 6.1% |
| *Contact with knife, sword or dagger* | *1.9%* | *2.5%* | *1.9%* |
| *Contact with other specified machinery* | *0.8%* | *3.1%* | *1.0%* |
| *Struck by thrown, projected or falling object* | *0.4%* | *2.2%* | *0.6%* |
| Mine & quarry | 5.3% | 0.8% | 4.9% |
| *Struck by thrown, projected or falling object* | *1.3%* | *0.2%* | *1.2%* |
| *Contact with mining & earth drilling machinery* | *1.1%* | *0.2%* | *1.1%* |
| *Caught, crushed, jammed or pinched in or between other objects* | *0.8%* | *0.2%* | *0.8%* |
| Cafe, hotel & restaurant | 3.7% | 17.4% | 4.9% |
| *Contact with knife, sword or dagger* | *1.5%* | *4.6%* | *1.8%* |
| *Contact with sharp glass* | *0.8%* | *5.7%* | *1.2%* |
| Health service area | 0.6% | 6.9% | 1.1% |
| School | 0.8% | 3.7% | 1.1% |
| Other stated place of occurrence | 38.1% | 27.1% | 37.1% |
| **Total** | **100%** | **100%** | **100%** |
| **Work-related hospitalisations July 2006 to June 2009 involving inanimate mechanical forces[a]** | **17 300** | **1 700** | **19 000** |

a Table population is restricted to hospitalisations involving inanimate mechanical forces for which a place of occurrence was reported.
Note: Detailed nested cause of injury categories are only shown to approximately 1% overall representation and thus exclude smaller categories. Consequently cause of injury categories do not sum to the percentage shown for the place of occurrence.

12% of male hospitalisations due to *Exposure to inanimate forces* occurred at a *Construction area*

However, where the place of occurrence was recorded as *Construction area*, there was a notable difference in the proportions of male and female hospitalisations: 12% and 0.7% respectively. This reflects the male-dominated nature of the Construction industry and most likely the difference in tasks undertaken by male and female workers within the industry.

Workers hospitalised for an injury at a *Construction area* were most likely to have been *Struck by thrown, projected or falling object*

Table 21 shows that the most common detailed cause of injury due to inanimate mechanical forces in a *Construction area* was being *Struck by thrown, projected or falling object*. However, the causes of injury in a *Construction area* were quite varied and this combination of place and cause of injury category accounted for just 2.1% of hospitalisations caused by *Exposure to inanimate mechanical forces*.

Overall 9% of hospitalisations caused by *Exposure to inanimate mechanical forces* were recorded as happening on a *Farm*. The distributions were very similar for men and women: 9% and 10% respectively. The underlying cause of injury codes were quite varied so even the most common category overall, *Caught, crushed, jammed or pinched in or between other* [than a door] *objects,* accounted for just 1.5% of hospitalisations caused by *Exposure to inanimate mechanical forces*.

Just as the sex distributions at a *Construction area* shown in Figure 45 highlight the male-dominated nature of the Construction industry, the sex distributions for *Shop & store* and *Cafe, hotel & restaurant* highlight the female-dominated nature of the Retail industry and the Accommodation, cafes & restaurants industry.

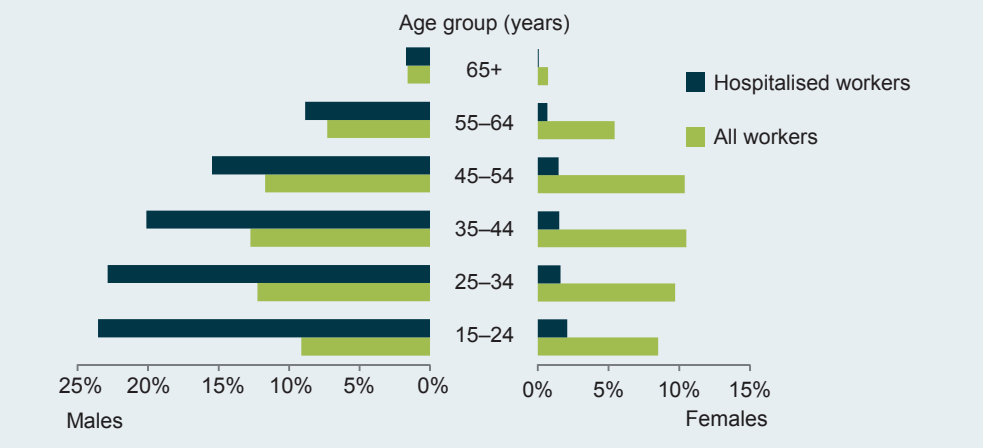
## Age and sex profile of hospitalised workers and all workers

Young males were over-represented among workers hospitalised for an injury caused by *Exposure to inanimate mechanical forces*

Figure 46 depicts the age and sex profile of workers hospitalised for an injury caused by *Exposure to inanimate mechanical forces* with the age and sex profile of all workers.

The graph demonstrates clearly that males in the younger age groups were particularly over-represented among hospitalisations caused by *Exposure to inanimate mechanical forces*. This pattern supports the earlier comments about male dominated industries that have a high exposure to hazardous machinery.

***Figure 46*** **Work-related hospitalisations caused by exposure to inanimate mechanical forces and all workers[a] June 2006 to July 2009: age and sex profile[b]**




a ABS Labour Force data for Employed people (6291.0.55.003 — datacube ST E05_Aug94_ANZSIC06).

b The number of people in each age/sex grouping is expressed as a percentage of the whole group.

# Falls

In the ICD-10-AM coding system, *Falls* (W00–X59) are a subset of *Other external causes of injury* (W00–W19). Some kinds of fall are excluded from this category. In particular, falls from a vehicle or a horse are included under *Transport accidents* and falls into water that result in drowning or submersion are included in *Accidental drowning and submersion*. The ICD-10-AM coding system allows most falls to be coded in detail, identifying circumstances as specific as, for example, *Fall from or through balcony or verandah* or *Fall involving revolving chair*.

**Injuries caused by *Falls* were the second most common cause of injury requiring hospitalisation. They were responsible for 16% of the 73 400 hospitalisations known to be work-related over the three-year period July 2006 to June 2009**

## Place of occurrence

Table 22 shows the *Place of occurrence* of the injury with the most common categories of *Falls* nested underneath. All figures are expressed as a proportion of hospitalisations resulting from falls for which both a place of occurrence was recorded and a type of fall was specified.

One-quarter of males hospitalised for *Falls* were injured at a *Construction area* — most commonly by a *Fall from, out of or through building or structure*

Overall, 18% of hospitalisations resulting from *Falls* occurred at a *Construction area.* The Construction industry is particularly male dominated (see page 19) so when *Construction area* is examined by gender the difference in proportions is considerable. Among men, one-quarter of all hospitalisations for a work-related injury caused by *Falls* occurred at a *Construction area*, whereas among women the proportion was 0.9%. The most common type of fall for those men injured by *Falls* at a *Construction area* was a *Fall from, out of or through building or structure*. This category accounted for nearly one-in-ten (9%) male hospitalisations for falls. A *Fall on & from scaffolding* accounted for a further 5% of male hospitalisations for *Falls* as did the category *Fall on & from ladder*.

Just over half the female workers hospitalised because of *Falls* had slipped or tripped on the same level

The most common places female workers were injured by *Falls* were *Shop & store* (14% of female hospitalisations due to *Falls)*, *School* (13%), *Cafe, hotel & restaurant* (11%) and *Health service area* (11%). Across all these places of occurrence, the most common sub-category of *Falls* experienced by these women was a *Fall on same level from slipping, tripping & stumbling.*

## *Table 22* Work-related hospitalisations July 2006 to June 2009 caused by falls: percentage of hospitalisations by place of occurrence[a] and type of fall[a] by sex

| | Percentage of work-related hospitalisations for falls[a] | | |
|---|---|---|---|
| Place of occurrence by type of fall | Males | Females | Total |
| Construction area | 25.3% | 0.9% | 17.9% |
| *Fall from, out of or through building or structure* | *8.8%* | *0.3%* | *6.2%* |
| *Fall on & from scaffolding* | *5.2%* | *0.1%* | *3.7%* |
| *Fall on & from ladder* | *5.1%* | *0.1%* | *3.6%* |
| *Other fall from one level to another* | *2.7%* | *0.1%* | *1.9%* |
| *Fall on same level from slipping, tripping & stumbling* | *2.0%* | *0.1%* | *1.4%* |
| Factory & plant | 10.2% | 3.9% | 8.3% |
| *Fall on same level from slipping, tripping & stumbling* | *2.6%* | *1.8%* | *2.4%* |
| *Other fall from one level to another* | *2.5%* | *0.1%* | *1.8%* |
| *Fall on & from ladder* | *1.8%* | *0.6%* | *1.4%* |
| Shop & store | 4.7% | 14.2% | 7.5% |
| *Fall on same level from slipping, tripping & stumbling* | *1.7%* | *9.1%* | *3.9%* |
| *Fall on & from ladder* | *1.0%* | *1.5%* | *1.1%* |
| Cafe, hotel & restaurant | 3.9% | 10.8% | 6.0% |
| *Fall on same level from slipping, tripping & stumbling* | *1.7%* | *6.8%* | *3.3%* |
| *Fall on & from stairs & steps* | *0.5%* | *1.9%* | *0.9%* |
| Farm | 6.3% | 4.4% | 5.7% |
| *Fall on same level from slipping, tripping & stumbling* | *1.9%* | *1.3%* | *1.7%* |
| *Other fall from one level to another* | *1.9%* | *0.7%* | *1.6%* |
| *Fall on & from ladder* | *1.0%* | *1.2%* | *1.0%* |
| School | 1.7% | 12.8% | 5.0% |
| *Fall on same level from slipping, tripping & stumbling* | *0.3%* | *5.5%* | *1.9%* |
| *Fall on & from stairs & steps* | *0.1%* | *3.3%* | *1.1%* |
| Health service area | 1.6% | 10.7% | 4.3% |
| *Fall on same level from slipping, tripping & stumbling* | *0.7%* | *6.7%* | *2.5%* |
| *Fall on & from stairs & steps* | *0.2%* | *1.7%* | *0.7%* |
| Mine & quarry. | 3.6% | 0.4% | 2.7% |
| *Fall on same level from slipping, tripping & stumbling* | *1.3%* | *0.3%* | *1.0%* |
| *Other fall from one level to another* | *1.2%* | *0.0%* | *0.8%* |
| Sidewalk | 1.2% | 3.9% | 2.0% |
| *Fall on same level from slipping, tripping & stumbling* | *0.6%* | *3.2%* | *1.4%* |
| Office building | 0.8% | 4.3% | 1.8% |
| *Fall on same level from slipping, tripping & stumbling* | *0.3%* | *1.6%* | *0.7%* |
| *Fall on & from stairs & steps* | *0.3%* | *1.3%* | *0.6%* |
| *Fall involving chair* | *0.0%* | *0.7%* | *0.3%* |
| Aged care facilities | 0.5% | 3.8% | 1.5% |
| *Fall on same level from slipping, tripping & stumbling* | *0.1%* | *2.4%* | *0.8%* |
| Roadway | 1.3% | 1.4% | 1.4% |
| *Fall on same level from slipping, tripping & stumbling* | *0.4%* | *1.1%* | *0.6%* |
| Driveway to home | 1.3% | 1.5% | 1.3% |
| Commercial garage | 1.2% | 0.5% | 1.0% |
| Other stated place of occurrence | 36.5% | 26.4% | 33.4% |
| **Total** | **100%** | **100%** | **100%** |
| **Work-related hospitalisations July 2006 to June 2009 involving falls[a]** | **4 200** | **1 800** | **6 000** |

a Table population is restricted to hospitalisations involving specified falls for which a place of occurrence was reported.
Note: Detailed nested *Fall* categories are generally only shown to approximately 1% overall representation and thus exclude smaller categories. Consequently *Fall* categories do not sum to the percentage shown for the place of occurrence.

## Bodily location of injury due to a fall

Table 23 shows the most common broad categories of *Falls* nested by the most common *Bodily locations* of injury. Notably absent under most categories of *Falls* are hospitalisations that were the result of injuries to the *Wrist & hand* — a particularly dominant bodily location of injury where the cause of work-related hospitalisation was *Exposure to inanimate mechanical forces*. In general, for most categories of *Falls*, the most common bodily locations of injury were the *Knee & lower leg*, the *Elbow & forearm* and the *Trunk.*

The most common broad type of fall was *Falls on the same level from slipping, tripping & stumbling* (Figure 46 shows that this category can be disaggregated into individual categories). These incidents most commonly resulted in injuries to the *Knee & lower leg* (9% of all hospitalisations for *Falls*) and the *Elbow & forearm* (6% of hospitalisations for *Falls*).

Nearly one-quarter of males hospitalised for a work-related fall had fallen from a ladder

Overall, 18% of hospitalisations resulting from *Falls* were due to a *Fall on & from a ladder*. However, most of these hospitalisations were for men and if the table was ranked on the proportion of male hospitalisations then it would show that men hospitalised for *Falls* were slightly more likely to have experienced a *Fall on & from a ladder* (23%) than a *Fall on the same level from slipping, tripping & stumbling* (20%). If the *Bodily location* of injury for *Fall on & from a ladder* is recalculated to express the figures as a proportion of the fall category rather than all hospitalisations, then nearly one-quarter (22%) of men hospitalised for a fall involving a ladder were injured on the *Elbow & forearm*. On the same basis, 20% were injured on the *Trunk*, 16% were injured on the Knee & lower leg and, more critically, 12% received a *Head (excluding eye)* injury.

Figure 47 shows the male and female percentage distribution of the ten most common *Falls* categories ranked in descending order on the basis of men and women combined. The reader should note that the graph shows more detailed categories of *Falls* than those shown in Table 22.

The graph clearly shows that some categories of *Falls* were more common among hospitalised men and some were more common among hospitalised women. The most common detailed *Falls* sub-category overall was a *Fall on & from a ladder*. This category accounted for 18% of all specified *Falls*. However, looking at the proportion of hospitalised men in this category further highlights the hazardous position of a worker on a ladder since nearly one-quarter (23%) of male hospitalisations resulting from a fall had experienced a *Fall on & from a ladder.* Conversely, this sub-category of *Falls* accounted for 6% of female hospitalisations: a difference most likely reflecting the differences in the types of work undertaken by men and women.

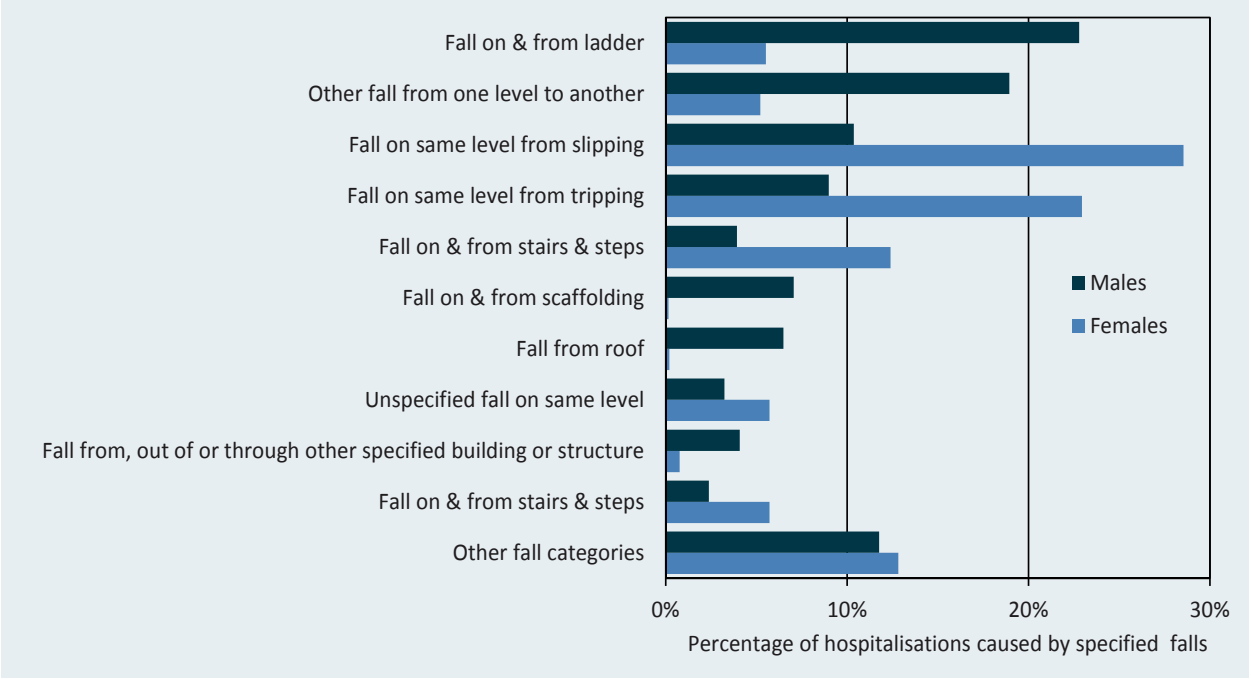
Figure 47 also highlights that just over half (51%) the women hospitalised for a work-related injury caused by *Falls* had slipped or tripped on the same level. This was well over double the proportion (19%) of male hospitalisations caused by *Falls* from slipping or tripping.

## *Table 23* Work-related hospitalisations July 2006 to June 2009 caused by falls: percentage of hospitalisations by type of fall[a] and bodily location by sex

| | Percentage of work-related hospitalisations for falls[a] | | |
|---|---|---|---|
| Type of fall and bodily location | Males | Females | Total |
| Fall on same level from slipping, tripping & stumbling | 20.2% | 53.0% | 28.5% |
| *Knee & lower leg* | *6.6%* | *14.4%* | *8.6%* |
| *Elbow & forearm* | *3.2%* | *14.1%* | *6.0%* |
| *Shoulder & arms* | *2.2%* | *5.5%* | *3.1%* |
| *Trunk* | *2.1%* | *5.0%* | *2.8%* |
| *Head (excluding eye)* | *1.6%* | *5.4%* | *2.6%* |
| *Hip & thigh* | *1.4%* | *4.4%* | *2.2%* |
| *Wrist & hand* | *1.9%* | *2.2%* | *2.0%* |
| Fall on & from ladder | 22.8% | 5.5% | 18.4% |
| *Elbow & forearm* | *5.0%* | *1.7%* | *4.2%* |
| *Trunk* | *4.5%* | *0.8%* | *3.5%* |
| *Knee & lower leg* | *3.7%* | *1.1%* | *3.0%* |
| *Head (excluding eye)* | *2.7%* | *0.5%* | *2.2%* |
| *Ankle & foot* | *2.2%* | *0.3%* | *1.7%* |
| *Shoulder & arms* | *1.7%* | *0.6%* | *1.4%* |
| *Wrist & hand* | *1.6%* | *0.1%* | *1.2%* |
| Other fall from one level to another | 18.9% | 5.2% | 15.5% |
| *Knee & lower leg* | *4.3%* | *1.5%* | *3.6%* |
| *Trunk* | *3.9%* | *1.0%* | *3.2%* |
| *Elbow & forearm* | *2.9%* | *1.0%* | *2.4%* |
| *Head (excluding eye)* | *2.1%* | *0.6%* | *1.7%* |
| *Ankle & foot* | *1.6%* | *0.4%* | *1.3%* |
| *Shoulder & arms* | *1.7%* | *0.3%* | *1.3%* |
| Fall from, out of or through building or structure | 14.9% | 1.2% | 11.4% |
| *Trunk* | *4.2%* | *0.1%* | *3.2%* |
| *Head (excluding eye)* | *2.4%* | *0.2%* | *1.8%* |
| *Knee & lower leg* | *2.0%* | *0.5%* | *1.6%* |
| *Elbow & forearm* | *1.8%* | *0.1%* | *1.4%* |
| Fall on & from stairs & steps | 6.3% | 18.1% | 9.3% |
| *Knee & lower leg* | *1.9%* | *5.8%* | *2.9%* |
| *Elbow & forearm* | *0.7%* | *3.3%* | *1.3%* |
| *Trunk* | *0.9%* | *2.1%* | *1.2%* |
| *Head (excluding eye)* | *0.7%* | *1.9%* | *1.0%* |
| Fall on & from scaffolding | 7.1% | 0.2% | 5.3% |
| *Trunk* | *1.8%* | *0.0%* | *1.4%* |
| *Head (excluding eye)* | *1.2%* | *0.0%* | *0.9%* |
| Fall involving chair | 0.7% | 4.1% | 1.6% |
| Other falls | 9.1% | 12.7% | 10.0% |
| **Total** | **100%** | **100%** | **100%** |
| **Work-related hospitalisations July 2006 to June 2009 involving falls[a]** | **7,700** | **2,600** | **10,300** |

a Table population is restricted to hospitalisations for *Falls* excluding the category *Unspecified fall*.
Note: Detailed nested *Bodily location* categories are generally only shown to approximately 1% overall representation and thus exclude smaller categories. Consequently categories do not sum to the percentage shown for the *Type of fall* categories.

*Figure 47* **Work-related hospitalisations July 2006 to June 2009 caused by falls: the ten most commonly specified[a] detailed categories of fall by sex**




a The category 'Unspecified falls' was excluded from the calculation of percentages.

Note: These ten types of fall accounted for a total of 88% of male and 87% of female work-related hospitalisations for which a type of fall was specified.

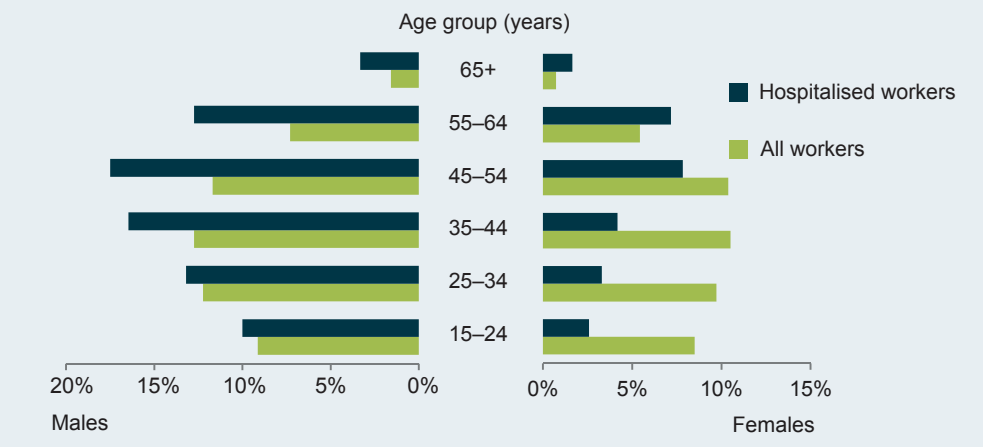
## Age and sex profile of workers hospitalised for a fall

One-quarter of workers hospitalised for *Falls* were aged 55 years and over

In the section on all hospitalisations at the front of this publication Figures 7 & 8 (see page 14) clearly show that the proportion of all work-related hospitalisations caused by *Falls* increased notably with the age of the worker, particularly for women. This pattern is also reflected in the age and sex structure of just workers that had been hospitalised for *Falls*. Figure 48 also clearly shows that workers hospitalised for *Falls* had an age and sex structure skewed towards the older age groups. Overall, one-quarter of workers hospitalised for a *Falls* were aged 55 years or more whereas 15% of all workers were aged 55 years or more.

The skew to older ages among workers hospitalised for injuries sustained from *Falls* is probably related to both an increased risk of falling and an increased risk of sustaining a more serious injury from a fall with increasing age.

***Figure 48*** **Work-related hospitalisations caused by falls and all workers[a] June 2006 to July 2009: age and sex profile[b]**




a ABS Labour Force data for Employed people (6291.0.55.003 — datacube ST E05_Aug94_ANZSIC06).

b The number of people in each age/sex grouping is expressed as a percentage of the whole group.

# Transport accidents

In the ICD-10-AM coding system *Transport accidents* (V00–V99) are a subset of *Other external causes of injury* (W00–W19). Broadly speaking the category is assigned to injuries caused by incidents involving a device designed primarily for conveying people or goods. The ICD–10–AM *Transport accidents* codes are very detailed and allow considerable disaggregation. Excluded from *Transport accidents* are incidents that involved vehicles but where the incident was unrelated to the hazards associated with the means of transport. For example, an aircraft passenger receiving an injury from an assault or a person trapping their fingers in a stationary car door. An injury caused by a vehicle falling on a mechanic while being serviced would also be excluded.

**Injuries caused by *Transport accidents* were the third most common cause of injury. They were responsible for 9% of the 73 400 hospitalisations known to be work-related over the three-year period July 2006 to June 2009**

Table 24 shows the broad and detailed categories of *Transport accidents* for male, female and all workers hospitalised during the period July 2006 to June 2009. At the broad level, *Other land transport accidents* was the most common category of *Transport accidents* and accounted for one-quarter of male hospitalisations and one-third of female hospitalisations. This residual category includes incidents involving animals, such as horses. Of particular interest is the inclusion in this category of specialised machinery used on farms, construction sites and industrial premises. This would include mobile plant such as tractors, all-terrain vehicles, excavators, forklift trucks, etc.

Nearly two out of ten female hospitalisations for *Transport accidents* were for a fall from a horse

Perhaps surprising in a highly industrialised country like Australia is the high proportion of female workers — nearly two out of ten (19%) female hospitalisations for *Transport accidents* — that were categorised as being a *Rider injured by fall from or being thrown from horse in noncollision accident*.

The detailed underlying causes of males hospitalised for *Other land transport accidents* were quite varied. Although the category *Rider injured by fall from or being thrown from horse in noncollision accident,* was also the most common for males (7% of male hospitalisations for *Transport accidents)* other common underlying categories typically accounted for around 2% or fewer of hospitalisations for *Transport accidents*. For example, the underlying categories *Driver of all-terrain or other off-road motor vehicle injured in nontraffic accident, four-wheeled special all-terrain or other off-road motor vehicle*, *Driver of special industrial vehicle injured in nontraffic accident* and *Driver of special agricultural vehicle injured in nontraffic accident* each accounted for 2% of male hospitalisations for *Transport accidents*.

6% of male hospitalisations for *Transport accidents* were injured heavy transport vehicle drivers

The second most common broad category of *Transport accident* was *Occupant of heavy transport vehicle injured in transport accident*. This category accounted for 18% of all hospitalisations involving *Transport accidents.* The proportion of males hospitalised was high (21%) but the female proportion very low (3%). For males, the most common underlying category of incident, with 6% of hospitalisations for *Transport accidents*, was *Occupant of heavy transport vehicle injured in transport accident noncollision transport accident, driver, traffic accident*: implying on the basis of the ICD-10-AM code manual and the 'noncollision' status that the driver was injured when their vehicle overturned in some way on a public road.

Just over one-third of female hospitalisations for *Transport accidents* were injured while in a car

Although the broad category *Car occupant injured in transport accident* was the third most common overall, with 17% of hospitalisations for *Transport accidents*, it was the most common broad category among women hospitalised because of a *Transport accident*. Just over one-third (34%) of female workers hospitalised because of a *Transport accident* had been a *Car occupant injured in transport accident* — most commonly (9%) in a *collision with car, pick-up truck or van, driver, traffic accident, unspecified car [automobile].*

## *Table 24* Work-related hospitalisations July 2006 to June 2009 caused by transport accidents: percentage of hospitalisations by type of accident

| Type of transport accident | Percentage of work-related hospitalisations for transport accidents | | |
|---|---|---|---|
| | Males | Females | Total |
| Other land transport accidents | 25.7% | 32.5% | 26.8% |
| *Rider injured by fall from or being thrown from horse in noncollision accident* | *6.8%* | *19.3%* | *8.8%* |
| *Driver of all-terrain or other off-road motor vehicle injured in nontraffic accident, four-wheeled special all-terrain or other off-road motor vehicle* | *2.2%* | *1.8%* | *2.2%* |
| *Driver of special industrial vehicle injured in nontraffic accident* | *2.2%* | *0.7%* | *1.9%* |
| *Driver of special agricultural vehicle injured in nontraffic accident* | *2.0%* | *0.8%* | *1.8%* |
| *Rider or occupant injured in other & unspecified transport accidents* | *1.3%* | *3.9%* | *1.7%* |
| *Person on outside of special industrial vehicle injured in nontraffic accident* | *1.7%* | *0.8%* | *1.6%* |
| Occupant of heavy transport vehicle injured in … | 21.1% | 2.6% | 18.2% |
| *noncollision transport accident, driver, traffic accident* | *5.8%* | *0.3%* | *4.9%* |
| *noncollision transport accident, person on outside of vehicle, nontraffic accident* | *2.3%* | *0.0%* | *2.0%* |
| *noncollision transport accident, driver, nontraffic accident* | *1.6%* | *0.3%* | *1.4%* |
| *Occupant [any] of heavy transport vehicle injured in other specified transport accidents* | *1.6%* | *0.1%* | *1.4%* |
| *noncollision transport accident, while boarding or alighting* | *1.5%* | *0.4%* | *1.3%* |
| *Occupant [any] of heavy transport vehicle injured in unspecified traffic accident* | *1.4%* | *0.0%* | *1.2%* |
| *collision with heavy transport vehicle or bus, driver, traffic accident* | *1.4%* | *0.1%* | *1.2%* |
| Car occupant injured in … | 13.7% | 34.4% | 17.0% |
| *collision with car, pick-up truck or van, driver, traffic accident, unspecified car [automobile]* | *2.1%* | *9.4%* | *3.2%* |
| *collision with car, pick-up truck or van, driver, traffic accident, sedan* | *1.5%* | *4.8%* | *2.0%* |
| *collision with fixed or stationary object, driver, traffic accident, unspecified car [automobile]* | *1.4%* | *3.9%* | *1.8%* |
| *noncollision transport accident, driver, traffic accident, unspecified car [automobile]* | *0.9%* | *1.9%* | *1.1%* |
| Motorcycle rider injured in … | 17.3% | 11.0% | 16.3% |
| *noncollision transport accident, driver, nontraffic accident, motorcycle designed primarily for off-road use* | *2.5%* | *1.7%* | *2.4%* |
| *collision with car, pick-up truck or van, driver, traffic accident, motorcycle designed primarily for on-road use* | *2.0%* | *0.8%* | *1.8%* |
| *Motorcycle rider [any] injured in unspecified traffic accident* | *1.9%* | *1.1%* | *1.8%* |
| *noncollision transport accident, driver, traffic accident, motorcycle designed primarily for on-road use* | *1.1%* | *0.7%* | *1.1%* |
| Pedestrian injured in … | 6.1% | 7.3% | 6.3% |
| *collision with car, pick-up truck or van, traffic accident* | *1.4%* | *3.1%* | *1.6%* |
| *nontraffic accident involving other & unspecified motor vehicles* | *1.3%* | *0.5%* | *1.1%* |
| Pedal cyclist injured in … | 4.8% | 5.9% | 5.0% |
| *noncollision transport accident, driver, traffic accident* | *1.5%* | *1.4%* | *1.4%* |
| *collision with car, pick-up truck or van, driver, traffic accident* | *1.4%* | *1.9%* | *1.4%* |
| Water transport accidents | 4.4% | 2.4% | 4.1% |
| Occupant of pick-up truck or van injured in transport accident | 3.6% | 1.5% | 3.3% |
| Other types of transport accident | 3.1% | 2.2% | 3.0% |
| **Total** | **100%** | **100%** | **100%** |
| **Work-related hospitalisations July 2006 to June 2009 involving traffic accidents** | **5 700** | **1 100** | **6 700** |

Note: Detailed nested *Transport accidents* categories are generally only shown to approximately 1% overall representation and thus exclude smaller categories. Consequently categories do not sum to the percentage shown for the broad categories.

Half of all *Transport accidents* occurred on a *Roadway*

The *Roadway* was the most common (50%) *Place of occurrence* for *Transport accidents* that resulted in the hospitalisation of a worker. Table 25 shows the most common *Place of occurrence* categories and the most common underlying type of *Transport accidents*. Overall, the most common category of accident on a *Roadway* was a *Car occupant injured in transport accident*, accounting for 17% of hospitalisations for *Transport accidents*. The second most common accident category overall on a *Roadway* was *Occupant of heavy transport vehicle injured in transport accident* accounting for 13% of hospitalisations for *Transport accidents.* Because truck drivers are predominantly male, and their main 'workplace' is effectively a *Roadway*, the proportions of hospitalisations of men and women differed markedly from the overall figures. One-third (33%) of female hospitalisations for *Transport accidents* compared with 14% of male hospitalisations were categorised as *Car occupant injured in transport accident*. Conversely, 15% of male hospitalisations compared with 1.3% of female hospitalisations were categorised as *Occupant of heavy transport vehicle injured in transport accident*.

A *Farm* was the second most common place of occurrence of a *Transport accident*

A *Farm* was the second most common *Place of occurrence* of a *Transport accident* that resulted in a worker receiving an injury that required hospitalisation. The fact that two-out-of-ten (20%) *Transport accidents* resulting in a worker being hospitalised occurred on a *Farm* may seem surprising to the reader that associates the rural life as a peaceful and quiet existence. However, both hospitalisation data presented in this report and other information sources (Safe Work Australia 2013) highlight the hazards of working with agricultural machinery and plant in often physically challenging environments and often without other workers nearby.

Among female workers hospitalised because of a *Transport accident* on a *Farm* or a *Racetrack or racecourse,* 14% had fallen or been thrown from a horse

The most common *Transport accident* category on a *Farm*, accounting for 11% of hospitalisations for *Transport accidents*, was *Other land transport accidents* — a category that includes horses, motorbikes, off-road all-terrain vehicles, and other specialised agricultural vehicles like tractors and harvesters. A *Rider injured by fall from or being thrown from horse in noncollision accident* was the most common detailed category under *Other land transport accidents.* This category accounted for 7% of female hospitalisations involving *Transport accidents*. The reader should also note that the same category, also accounting for 7% of female hospitalisations involving *Transport accidents,* was also responsible for the majority of hospitalisations because of *Transport accidents* at a *Racetrack & racecourse*.

The use of all-terrain vehicles on farms is currently under considerable scrutiny because of the number of deaths associated with their use. Overall 2.3% of *Transport accidents* that resulted in the hospitalisation of a worker were categorised as a *Driver of all-terrain or other off-road motor vehicle injured in non-traffic accident, four-wheeled special all-terrain or other off-road motor vehicle* on a *Farm*. However, recalculating this figure as a proportion of place of occurrence highlights that this category represented 12% of *Transport accidents* on *Farms*.

## *Table 25* Work-related hospitalisations July 2006 to June 2009 caused by transport accidents[a]: percentage of hospitalisations by place of occurrence and type of transport accident

| Place of occurrence and type of transport accident | Percentage of work-related hospitalisations for transport accidents[a] | | |
|---|---|---|---|
| | Males | Females | Total |
| **Roadway** | **49.3%** | **51.4%** | **49.6%** |
| *Car occupant injured in transport accident* | *13.7%* | *33.0%* | *17.1%* |
| *Car occupant injured in collision with car, pick-up truck or van* | *5.9%* | *17.5%* | *7.9%* |
| *Car occupant injured in collision with fixed or stationary object* | *3.2%* | *6.7%* | *3.8%* |
| *Car occupant injured in noncollision transport accident* | *2.7%* | *5.2%* | *3.2%* |
| *Occupant of heavy transport vehicle injured in transport accident* | *15.0%* | *1.3%* | *12.6%* |
| *Occupant of heavy transport vehicle injured in noncollision transport accident* | *8.5%* | *0.6%* | *7.1%* |
| *Occupant of heavy transport vehicle injured in collision with heavy transport vehicle or bus* | *1.9%* | *0.1%* | *1.6%* |
| *Occupant of heavy transport vehicle injured in collision with car, pick-up truck or van* | *1.5%* | *0.2%* | *1.3%* |
| *Occupant of heavy transport vehicle injured in collision with fixed or stationary object* | *1.4%* | *0.3%* | *1.2%* |
| *Motorcycle rider injured in transport accident* | *9.7%* | *5.2%* | *9.0%* |
| *Motorcycle rider injured in collision with car, pick-up truck or van* | *4.2%* | *2.2%* | *3.8%* |
| *Motorcycle rider injured in noncollision transport accident* | *2.9%* | *1.5%* | *2.6%* |
| *Pedal cyclist injured in transport accident* | *4.1%* | *4.9%* | *4.2%* |
| *Pedal cyclist injured in collision with car, pick-up truck or van* | *1.6%* | *2.1%* | *1.7%* |
| *Pedal cyclist injured in noncollision transport accident* | *1.7%* | *1.6%* | *1.7%* |
| *Pedestrian injured in transport accident* | *2.1%* | *4.0%* | *2.4%* |
| **Farm** | **20.0%** | **19.6%** | **19.9%** |
| *Other land transport accidents* | *10.5%* | *12.5%* | *10.8%* |
| *Animal-rider or occupant of animal-drawn vehicle injured in transport accident* | *4.2%* | *8.5%* | *4.9%* |
| *Rider injured by fall from or being thrown from horse in noncollision accident* | *3.4%* | *7.4%* | *4.0%* |
| *Occupant of special vehicle mainly used in agriculture injured in transport accident* | *3.3%* | *1.8%* | *3.0%* |
| *Driver of special agricultural vehicle injured in nontraffic accident* | *1.8%* | *0.7%* | *1.6%* |
| *Occupant of special all-terrain or other motor vehicle designed primarily for off-road use, injured in transport accident* | *2.7%* | *2.2%* | *2.6%* |
| *Driver of all-terrain or other off-road motor vehicle injured in non-traffic accident, four-wheeled special all-terrain or other off-road motor vehicle.* | *2.4%* | *1.7%* | *2.3%* |
| *Motorcycle rider injured in transport accident* | *7.5%* | *5.0%* | *7.1%* |
| *Motorcycle rider injured in noncollision transport accident* | *4.0%* | *2.6%* | *3.8%* |
| *Motorcycle rider injured in noncollision transport accident, driver, nontraffic accident, motorcycle designed primarily for off-road use* | *2.6%* | *1.8%* | *2.5%* |
| **Racetrack & racecourse** | **4.0%** | **9.4%** | **4.9%** |
| *Animal-rider or occupant of animal-drawn vehicle injured in transport accident* | *3.6%* | *8.9%* | *4.5%* |
| *Rider injured by fall from or being thrown from horse in noncollision accident.* | *2.7%* | *7.4%* | *3.5%* |
| **Large area of water** | **3.4%** | **1.8%** | **3.1%** |
| *Accident on board watercraft without accident to watercraft, not causing drowning & submersion* | *2.7%* | *1.7%* | *2.5%* |
| **Other place of occurrence** | **23.4%** | **17.8%** | **22.4%** |
| **Total** | **100%** | **100%** | **100%** |
| **Work-related hospitalisations July 2006 to June 2009 involving traffic accidents[a]** | **4 600** | **1 000** | **5 600** |

a Table population restricted to transport accidents where the place of occurrence was specified.
Note: Detailed nested *Transport accidents* categories are generally only shown to approximately 1% overall representation and thus exclude smaller categories. Consequently type of *Transport accident* categories do not sum to the percentage shown for the *Place of occurrence* categories.

# Age and sex profile of hospitalised workers and all workers

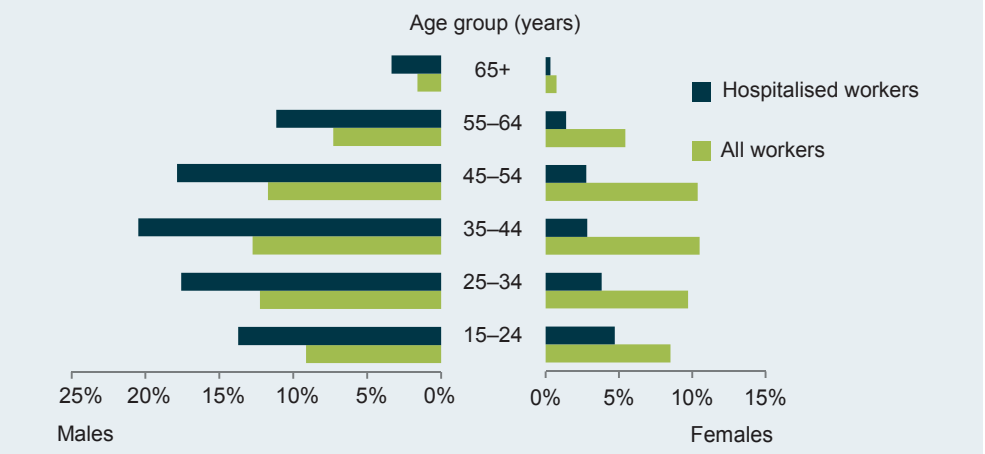
Figure 49 compares the age and sex profile of workers hospitalised for an injury caused by a *Transport accident* with the age and sex profile of all workers.

Middle-aged males were over-represented among workers hospitalised because of a *Transport accident*

The age and sex profile for *Transport accidents* is notably different to the age and sex profile of workers hospitalised for *Exposure to inanimate mechanical forces* (which was skewed towards younger males) and *Falls* (which was skewed towards older workers, particularly males).

The age sex profile for workers hospitalised for *Transport accidents* shows an over-representation of men, particularly those in the middle age groups, and an under-representation of women, particularly older women.

***Figure 49*** **Work-related hospitalisations caused by transport accidents and all workers[a] June 2006 to July 2009: age and sex profile[b]**




a ABS Labour Force data for Employed people (6291.0.55.003 — datacube ST E05_Aug94_ANZSIC06).

b The number of people in each age/sex grouping is expressed as a percentage of the whole group.

# References


Australian Bureau of Statistics (ABS) (2012). Labour Force, electronic publication Catalogue No. 6291.0.55.003 — datacube ST E05 Aug94 ANZSIC06.

Australian Safety and Compensation Council (ASCC) (2007) *Work-Related Injury Hospitalisations, Australia 2002–03 and 2003–04*.

Australian Safety and Compensation Council (ASCC) (2008) *Work-related hand and wrist injuries in Australia*.

Safe Work Australia (2012a). *Work-related traumatic injury fatalities, Australia, 2010–11*.

Safe Work Australia (2012b). National data set for compensation based statistics (NDS).

Safe Work Australia (2013). *Injuries and fatalities from working on Australian farms*.

# Explanatory Notes

## Hospitalisations included in this report

The data on hospital separations used in this report were provided by the Australian Institute of Health and Welfare (AIHW), from the National Hospital Morbidity Database (NHMD).

The formal term for a hospitalisation is a 'Separation', defined by the AIHW as a " formal, or statistical process, by which an episode of care for an admitted patient ceases". This is usually a discharge home, but is sometimes a transfer to another health care facility or death. This report studied separations that occurred during the three year period 1 July 2006 to 30 June 2009.

Since some patients may have had more than one episode of hospitalisation over the period the count of hospitalisations is not a count of individuals. Hospitalisation data in this report is based on the "Principal diagnosis" which is the diagnosis established after study to be chiefly responsible for occasioning an episode of admitted patient care.

The prime selection criterion for the inclusion of a hospital separation in this report was the recording of the activity at the time of injury as *While working for income* (ICD-10-AM code U73.0): defined as including paid work (manual or professional), transportation (time) to and from such activities, and work for salary, bonus and other types of income. Records were then further restricted to those for *Injury, poisoning and certain other consequences of external causes* (S00-T98).

The population group of separations was then further refined by excluding:

- patients aged under 15 years
- separations where the patient was discharged to another acute hospital, and
- separations where the injury was due to complications of surgical or medical care.

## ICD–10–AM

Diagnoses and external causes of injury for hospitalisations were recorded using the the International Statistical Classification of Diseases and Related health Problems, Tenth Revision, Australian Modification (ICD–10–AM). This system comprises classifications of diseases and external causes of injuries and poisoning, based on the World Health Organization's version of ICD-10. The ICD-10-AM classification is hierarchical, with 20 summary disease chapters that are divided into a large number of more specific disease groupings (represented by 3-character codes).

The main Data items used in this report are:

*External causes of morbidity and mortality (U50–Y98)*

These codes allow identification of

- work-related injuries and in some cases the specific industry in which the patient was working when injured

- the cause of the injury the patient sustained, such as a fall or a traffic incident, and
- the Place of occurrence of the injury (where specified).

The Type of injury and Bodily location categories used in this report are based on aggregation of various *Injury, poisoning and certain other consequences of external causes* (S00-T98) codes into simplified groups. These recodes are listed in detail in a previous report (ASCC, 2007) available on the Safe Work Australia website.

## Data limitations

This report includes data from all hospitals that contributed to the NHMD during the period 1 July 2006 to 30 June 2009. This includes nearly all public and private hospitals in Australia that provide acute care services.

This report examines the circumstances of workers who sustained an injury that required a stay in hospital. They can be considered a “serious injury” subset of workers who were injured since the injury required a stay in hospital. However, it is important to bear in mind that there may be a larger group of injured workers who received medical attention from a general practice clinic or a hospital casualty ward whose injuries are not recorded in these statistics.

## Enquiries

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