Work-Related Injuries and Fatalities Involving a Fall From Height, Australia.
The information provided in this white paper are taken from:

![Safe Work Australia](image)

**Work-related injuries and fatalities involving a fall from height, Australia, October 2013**

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Falls from height have been recognised as a major cause of death and injuries at work in Australia. The risk of falls is present across various industries and occupations, from construction to cleaning services. All employers, regardless of the sector they operate, are obliged to address these hazards and mitigate the risks. The negligence is not acceptable and can severely damage the business reputation.

This paper summarises the most important information and data on fatalities, serious injuries and hospitalisations that have occurred in the recent years as the result of fall from height at work in Australia.

INTRODUCTION

We have found RIGCOM Access to be a breath of fresh air in the industry, in regards to compliance and reliability not just in the way they conduct their work but the quality of work they finish off and provide back to us. I would thoroughly and highly recommend RIGCOM Access for any height access, or Rope Access work and fully endorse them and their products for anybody in a variety of industries.

Luke Schibeci, WHSE Manager, Sydney Cricket and Sports Ground Trust
Between July 2003 and July 2011, **232 workers were killed** as a result of a fall from height, 11% of all workers killed over this period.

- Workers aged 45 or over made up 70% of the fatalities.
- The construction industry accounted for 37% of falls-related fatal accidents. The highest numbers of fatalities were recorded in: House construction (14), Painting and decorating services (13) and Roofing services (9).
- Occupations groups with the highest number of fatalities were: Painting trade workers (14), Building & plumbing labourers (12), Truck drivers (10) and Plumbers (10).
- Falls from a ladder accounted for the greatest number of fatalities: 37 (16%), followed by falls from a vehicle (27 fatalities) and falls from a roof (25 fatalities).
- The Construction industry featured the highest falls-related incidence rate, followed by Agriculture, forestry & fishing and Transport & storage sectors.
- Nearly half (46%) of the recorded claims was related to strains and sprains.
- Between July 2006 and July 2009, 6900 workers were hospitalised as a result of a fall from height, 9% of all workers who were hospitalised.
- Falls from a ladder accounted for 38% of all falls-related hospitalisations.
- The Construction industry made up 35% of all falls-related hospitalisation cases.
- In 2010-2011, 7733 claims for serious injury were logged out due to fall from height.
- A typical claim involved 6.2 weeks off work, which is much longer than all industries average of 4.4 weeks.
The data collected for the years 2008-2011 shows the majority of fatal fall-related accidents occurred within the Construction industry: 37% (41 fatalities). Other risky industries include: Agriculture, forestry & fishing (12%), Transport, postal & warehousing (12) and Manufacturing (11%).

Other trades with recorded cases of fatal accidents are: Mining, Retail and Administrative & support services. Fatal accidents occurred sporadically within: Public & administration safety, Arts & recreation services and Information media & telecommunication sectors.

The Construction trade features the highest fall-related fatality rate: 1.03 deaths per 100,000 workers. This is four times the average national fatality rate of 0.25. In fact, one quarter (25%) of all deaths occurred within the construction sector resulted from a Fall From Height. In total, 86 lives were lost between 2003/04 and 2010/11.

Further analysis of the industry records gives an interesting insight into the level of risk for different professional groups. Among construction services, painting and decorating services have the highest record of fatal fall-related accidents: 13 fatalities, followed by roofing services (9), electrical services (6) and plumbing services (5).

Building construction was the most affected business within the construction trade, with 23 workers having lost their lives falling from height. House construction accounted for 14 fatalities, non-residential construction for 8. Eight workers have died providing heavy & civil engineering construction services.
The Agriculture, forestry & fishing sector is another industry affected by high fatality rate: 0.84 deaths per 100,000 workers. This is over three times more than a national average for all industries. Between 2008 and 2010, 12 people have lost their lives as a result of a height fall accident.

When comparing the industry divisions, agriculture is much more affected by height related accidents than fishing and forestry services: 13 workers employed in beef-cattle and sheep-cattle farming services died falling from a height between 2003/04 and 2010/2011. For comparison: fish trawling, seining & netting and agriculture, forestry & fishing support services accounted for 4 fatalities each for the same period.

The Agriculture industry recorded the greatest drop in the number of fatal deaths, when comparing periods 1989-92 and 2008/11.

MINING

Mining is another industry with a high fatality rate: 0.72 deaths per 100,000 workers. This score is due to the fact the industry employs fewer workers comparing to the Construction, Agriculture and other trades. Five mining workers have lost their lives as a result of a fall from height between 2008 and 2011.
TRANSPORT, POSTAL & WAREHOUSING

The Transport, postal & warehousing sector recorded 12 fatal fall-related accidents for the period 2008-2010. The relatively low fatality rate of 0.52 is due to low employment level within the industry.

Road transport accounted for 9% of all height fall related fatal accidents recorded between 2003/04 and 2010/11. In total, 20 people were killed, most of them employed directly in the road transport.

MANUFACTURING

Manufacturing accounted for 10% of all fatal accidents between 2008 and 2011. This result places the industry close to the national average. Manufacturing fabricated metal products and food were the most affected trade divisions with nine and four fatal accidents recorded respectively for the period 2003/04-2010/11.

OTHER INDUSTRIES

The Electricity, gas, water and waste services trade accounted for three fatalities (2008-2010) and features the fatality rate of 0.56, much above the national average.

Industries recognised as ‘safe’ with the fatality rates much below a national average are: Education & training (0.00), Healthcare & social assistance (0.02) and Accommodation & food services (0.03).

“RIGCOM Access offered Improved safety and monitoring of the system to be certified and a lower installation cost compared to other companies. With a short lead time, RIGCOM Access were flexible with the dates for our install and provided good after sales follow up. We would recommend RIGCOM Access to any company looking at using a similar Height Safety System.”

Darren Rapana, Regional Express Airlines
The highest number of fatal accidents for the period 2008-2011 was recorded for Technicians & trade workers: 43 fatalities. In fact, 41% of all fatal accidents occurred in this professional group. The next most-affected occupations were: labourers: 30 fatalities and machinery operators and drivers: 17 deaths.

Other occupations with a record of fatal accidents include: managers (10 fatalities), professionals (7), community & personal service workers (3) and sales workers (2).

The data shows that occupations with the highest number of high-related fatal accidents also feature the highest fatality rates: 0.65 for technicians and trade workers, 0.64 for labourers and 0.59 for machinery operators and drivers, comparing with the all-industries national average of 0.25.

Detailed data analysis of fatal accidents by occupation for the periods 2003/2004 - 2010/11 reveals that painting trade workers and plumbers recorded the highest number of fatal accidents among all construction occupations: 14 and 10 respectively. Electrotechnology & telecommunication trade accounted for 13 fatalities; the same number of fatal deaths was recorded for structural steel and automotive trade workers.

Among all labourers, those working in the Construction and Mining sectors were the most affected, with 24 fatalities (10% of all labour fatal accidents). On the next position were farm, forestry and garden workers (15 fatalities - 6%). Twenty three fatal accidents were recorded among other labourers, such as: deck & fishing hands and handy persons.

Machinery operators and drivers are also at high risk: 13% of all fatal accidents within the discussed period occurred within this occupation group, with the highest number of accidents recorded among road and rail drivers: 12 deaths (5%).

Among managerial occupations, 10 farm managers, 7 specialist managers and 4 hospitality, retail and service managers died as a result of a fall from height between 2003/04 and 2010/11.

Other occupations with the fatal accidents records include: professionals (10 fatalities), community & personal service workers (9), sales workers (3) and clerical & administrative workers (1).

When comparing statistics for 2003/04-2010/11 with the 1989/92 records, it is clear that the greatest decrease in a number of a fall from height accidents occurred among labourers and related workers - 43%. Managers and administrators have also recorded a significant drop in fatalities (67%), while tradespersons and related workers have only achieved a 38% decrease.
FATAL ACCIDENTS CHARACTERISTICS

Over three quarters of workers who lost their lives due to a fall from height in the years 2008-2011, died due to head injuries, sometimes combined with injuries to other parts of the body. Head injuries were the most common cause of death for all origins of falls (with the exception of boat accidents).

Chest and torso injuries were pointed as a cause of death in 8% of all fatal accidents, while 7% of all deaths happened due to drowning after falling into water. Other death causes included: deep vein thrombosis and bruising an area of the body.

Among 23 workers who fell from a ladder, 18 (78%) died from head injuries, while three died from injuries to the torso. Head injuries accounted for the highest ratio of fatalities for falls from a roof (90%), a building under construction (86%) and vehicles (83%).

The height of the fall ranged from one meter to 54 meters. In majority of cases, the fall leading to death occurred from the height of two meters or less. About one fifth of the accidents involved falling from the height of three meters or less.

The data from the period 2003/04-2010/11 shows that the greatest number of fatal accidents (16%) was caused by a fall from a ladder, followed by a fall from a vehicle (11%) and a roof (11%). Twenty workers died after falling from a building under construction. Fatal accidents also included falling from a platform, hoist, boat, tank, forklift, stairs, tree, etc.

Older workers were the most accident-prone among all age-groups for all main origins of a fall (ladder, vehicle, roof, building under construction and platform). Among fatal falls from a ladder, workers aged 65 or over accounted for nearly half (49%) of all accidents. Over one quarter (27%) of falls from a vehicle and one fifth of fatal falls from a roof occurred in this age group. For younger workers (under 45 years), a building under construction was the most common origin of a fall.

Among construction workers, the most common origin of a fall was a ladder (21% of all fatal accidents within the industry), a building under construction (21%), a platform (19%) and a roof (17%). Manufacturing workers tended to fall from a ladder (19%) and a forklift (14%). Transportation, postal and warehousing staff experienced fatal falls predominantly from a vehicle (45%) or a boat (15%). Among administrative and support services employees, falling from a ladder was the most common origin of a fatal fall (25%).

“During the planning process to safely access the Jet fan cradles for the Lane Cove tunnel, we engaged RIGCOM Access to help provide a solution. Utilising Rope Access, RIGCOM Access have delivered to us a very practical and safe method for accessing the cradles of our Jet fans. When developing new maintenance procedures, our biggest aim is that they are carried out safely. I would be happy to recommend RIGCOM Access to any commercial or industrial places of work. Their technical knowledge is of a high class and they also offer a very high level of customer support, which is a hard thing to find.”

Christian Hoelscher, Transfield Services.
Between July 2003 and July 2011, 37 workers died due to a fall from a ladder in Australia. The most common circumstances and reasons for these accidents were:

- The worker fell while climbing up or down a ladder
- The ladder was over-balanced
- The accident were anticipated to be caused by a medical event prior to the fall
- The worker fell when the ladder was moved
- The ladder collapsed
- The worker was knocked off the ladder by a falling tree branch.

These accidents most often occurred on construction sites (12), commercial premises (10) and residential premises (8).

The victims of the fatal falls represented different occupations; the most common were: handymen (6), electricians (4), painters (4), commercial cleaners (3) and plumbers (3).

In one quarter of cases where the height was measured, the fatal fall occurred from a distance of between two and three meters. In two instances the fall happened from a height of one meter only. This is a clear indication that even a fall of one metre can have fatal consequences depending on what part of the body is affected. In the mentioned cases, both affected workers were over 65 years and died of head injuries.

The statistics show that half of the fatal falls from a ladder involved workers aged 65 and over. The accidents happened on established buildings at commercial and residential properties.

The number of deaths caused by a fall from a ladder dropped from 33 in 2003/04 to 23 in 2010/11.
Between July 2003 and July 2011, 26 workers died in Australia as a result of falling from a vehicle, most often from a truck (18 fatalities). Often, the accident happened when the worker was loading or unloading a truck (12 fatalities). In other cases utilities were involved in an accident. Four workers fell from a slow moving vehicle.

Three quarters of the workers who died following a fall from a vehicle were aged 45 years or over. No accidents were recorded in the age group up to 24 years in the given period.

The number of fatalities due to a fall from a vehicle has changed very little over time: there were 13 recorded accidents between 1989 and 1992 and 12 cases between 2010 and 2011.
For the eight years’ period between July 2003 and July 2011, 25 workers died as a result of a fall from a roof. At the time of the accident, they were involved in the following activities:

- Repairing the roof (most cases)
- Removing of old roof sheeting
- Painting residential premises
- Installing services to premises
- Replacing guttering

The accidents took occurrence at:

- Residential houses (most cases)
- Industrial premises
- Commercial premises
- High rise residential premises
- Schools

The accidents involved representatives of different trades and occupations. Among them were:

- Plumbers (4)
- Building and plumbing labourers (3)
- Handy persons (2)
- Painters (2) and
- Roof tillers (2).

Nearly a half of the recorded accidents involved a fall from three meters or less and occurred at residential properties. Over three quarters of the fatal accident victims were aged 45 years or over.

The number of fatal falls from a roof has significantly dropped over the last years: from 22 accidents recorded in 1989/92 to 11 in the 2008/11 period.
FALLS FROM BUILDINGS UNDER CONSTRUCTION

In the period between July 2003 and July 2011, **20 workers died in Australia as a result of a fall from a building under construction**. Of these, 18 were employed in the construction trade.

Falls from buildings usually involved residential construction (11 workers). Two employees were working on high rise accommodation, another two on commercial buildings and four on industrial structures at the time of the accident. One third of these fatalities involved a fall from a height of between two or four metres. Most of workers (70%) iThe hoist failed to maintain its height (5 fatalities).

FALLS FROM PLATFORMS

During the eight years’ period (July 2003-July 2011), **19 workers died following a fall from a hoist**. The platforms included: trestles (5), mobile scaffolds (3), suspended scaffolds (3) and various types of fixed scaffolding (8). The height of the falls varied from 20 to 54 m for mobile platforms to three metres or less for trestle platforms.

FALLS FROM HOISTS

**14 workers died** in Australia between July 2003 and July 2011 as a result of a fall from a hoist. In 12 cases they fell from an elevated work platform (EWP). The height of the fall ranged from two to 20 metres. The main reasons behind these accidents were:

- The EWP fell over when it was moved to a new position (5 fatalities)
- The hoist failed to maintain its height (5 fatalities)
- Falling out from the basket attached to the hoist (3 fatalities)
Sprains and strains accounted for nearly half (46%) of the falls-related claims. Other most common injuries were: fractures (25%) and contusion & crushing injuries involving bruising (9%). Other recorded types of injuries included:

- Diseases of the musculoskeletal system (6%)
- Open wounds (4%)
- Dislocations (3%)
- Fractures of vertebral column (2%)
- Intracranial injuries (1%) and
- Other injuries (4%).

The distribution of claims was similar for male and female workers. However, males tended to take more time off work than women. On average, men spent 10 weeks off as a result of fractures, while women – eight weeks. Diseases of the musculoskeletal system were linked to 10.8 weeks off work taken by men and seven weeks off taken by women.

Spinal fractures involved the longest periods of time off work: 19.2 weeks for male and 17.7 weeks for female workers. The median time lost due to an illness following a fall from height was six weeks.

Detailed analysis of the bodily location of the injury shows that most fall-related injuries for the 2009-2011 period were related to knee (16%), ankle (15%) and back (15%). The results were similar for men and women. Other recorded locations of injuries included:

- Shoulder (8%)
- Wrist (6%)
- Foot & toes (5%)
- Chest (4%)
- Lower leg (4%)
- Hand, fingers & thumb (3%)
- Head (3%) and
- Elbow (3%).

Injuries to the shoulder recorded the longest median time off work: 11.4 weeks for males and 7.6 weeks for female workers. Wrist injuries resulted in average time off work of 7.8 weeks, while knee injuries – 6.4 weeks.
Between July 2006 and June 2009, an estimated 73,400 hospitalisations occurred across the country involving patients over 15 years old. Of this number, 6,900 (9%) had a cause of injury specified as a fall from height. Male workers represented 86% of these cases.

A significant fraction of the hospitalisation cases was caused by a fall from a ladder: 30% of male and 14% of female cases. A fall from one level to another was also a common cause of hospitalisation, especially for men (30% of all men cases). Falls on & from steps or stairs accounted for 14% of all hospitalisation cases; falls from or thorough a roof – for 10%, while falls on & from scaffolding – for 8%.

Workers aged between 45 and 54 years was the most affected age group with nearly one quarter (24%) of all hospitalisation cases for the 2006-2009 period, followed by 35-44 years old (22%) and 55 years and over (20%). Workers up to 24 years old were less likely to get hospitalised.

Analysis of hospitalisation cases by industry shows some interesting patterns. The Construction industry accounted for the highest number of hospitalisations: 1,700 out of 4,800 cases for which the industry of worker was recorded. Falls from a ladder, a roof and scaffolding were the most common within this sector (27, 22 and 19% of all recorded cases).

Hospitalisation of Transport & storage workers was dominated by 'other fall from one level to another,' which includes falling from a back of a truck while undertaking loading/ unloading activities. The highest ratios of hospitalisations resulted from falls on & from stairs occurred in the Wholesale & retail and Manufacturing industries.

As bodily location of the injury is concerned, the highest number of hospitalisations involved the injury to the trunk (22%), knee or lower leg (19%). However, the location of injury varies across the fall types. Falls from a ladder resulted in a high proportion of injuries to elbow and forearm (23%), while falls from a roof, scaffolding or other building or structure resulted in high ratios of injuries to the trunk: 26, 26 and 30% respectively. Knee and/or lower leg injury often occurred following a fall on/from stairs.

"From the first day that we discussed the installation of an overhead safety line in our Ausco Modular site at Seven Hills to the on-site training of our staff, the whole project was managed exceptionally well by the team at RIGCOM Access. Their turn around speed, professionalism and attention to detail was excellent. Ausco Modular would happily have RIGCOM Access back for any future projects and highly recommend them as a quality service provider"

Darren Ziegenfusz, Ausco Modular
SERIOUS WORKERS’ COMPENSATION CLAIMS DUE TO FALLS FROM HEIGHT

Between 2010 and 2011, 7,730 workers’ compensation claims for serious injury due to a fall from height were logged in Australia, accounting for 6% of all serious compensation claims. This means, each day 21 employees experienced a fall and were not able to work for at least one week.

On average, 75% of all serious falls-related claims were logged by male workers. This disproportion is probably due to the fact that male are more likely to work at height than female employees. However, the major increase in the number of claims was recorded for both sexes.

Age groups analysis reveals that workers aged between 45 and 54 are most likely to log a claim: 1,935 claims were registered for the 2010-11 period, which makes 25% of all claims. Further 23% of claims were filled in by employees aged 35-44. The highest incident rate (1 per 1,000 employees) was recorded for workers aged 55 and over.

In 2010-11, half of the claims were linked to less than six weeks off work, while 11% claims due to a fall from height involved one year or more off work. The median amount of time taken off from work as a result of a fall from height varied from 4.2 working weeks for employees aged under 25 years to 7.8 working weeks for workers aged 55 years and over.

The industries with the highest numbers of serious fall-related claims in 2010-11 were:
- Construction: 20%
- Manufacturing: 12% and
- Transport & storage (11%).

These trades recorded a drop in the number of claims between 18 and 20% when comparing with 2008/09 data. The average decrease across all industries was 14%. In the Construction sector, the number of claims dropped from 1,900 to 1,560, in Agriculture, forestry & fishing – from 480 to 355 and in Transport & storage – from 1,035 to 825.

Despite this positive trend, Construction, Agriculture, forestry & fishing and Transport & storage trades had the highest falls-related incidence rates: between 2.4 and 2.8 per 1,000 employees.

Queensland recorded the highest incidents rates in the Construction sector: 3.3 claims per 1,000 employees, while in Victoria and South Australia the rates were the lowest in the country: 1.8. Queensland also featured the highest incident rates in the Agriculture, forestry & fishing and Transport & storage sectors (4.7 and 2.9 respectively) as well as for Manufacturing and Wholesale trade (1.6 and 1.5 respectively).

A workers’ compensation claim is considered as serious when it involves a fatality, a permanent incapacity, or a temporary incapacity that requires one or more weeks of work.
The highest incident rates were recorded among:

- Intermediate production & transportation workers (23% of all claims)
- Tradespersons & related workers (22%) and
- Labourers & related workers (22%).

These three occupations accounted for nearly two thirds (64%) of serious claims due to a fall from height for the 2009-2011 period. They also registered the highest incident rates: 2.1, 1.7 and 1.5 serious claims per 1,000 employees respectively (2010-11). For comparison – the incident rates for other sectors were of 0.5 or less.

Among male workers, the highest incident rates were recorded for intermediate production & transport workers (29% of claims), tradespersons & related workers (28%) and labourers & related workers. For female employees, the results are totally different. The highest number of serious claims was registered among intermediate clerical, sale & service workers (25% claims), professionals (19%) and labourers & related workers (15%).

Data shows falls from a ladder most often involved electrical & electronics and structural construction tradespersons working in the installation trade services or building completion industries. Their falls most often resulted in a sprain or a strain of a knee, ankle or lower back, or a fracture of the wrist or knee.

Falls from steps and stairways involved employees from various occupation groups, most often including: cleaners, school teachers, sales assistants and carers. The victims were employed across a range of industries, such as: government agencies, schools, hospitals, cleaning services companies and others. The most commonly registered injuries were: a strain or sprain of the knee, ankle or back, or a fracture of the ankle or foot.

Falls from trucks, semi-trailers and lorries most often involved workers employed in the Road freight transport industry. Truck and delivery drivers were the most affected (1,540 and 265 claims respectively). In half of the cases the victims experienced a sprain or a strain to the knee, ankle, lower back or shoulder, or a fracture of a wrist or ribs.

Falls from buildings and other structures were the most common among carpenters, cleaners and plumbers. However, they are not exclusive to these occupations only. The most common sites of these accidents were schools and construction sites. The falls frequently resulted in a strain or a sprain of the knee or ankle, or a fracture of the ankle or wrist.
RIGCOM Access will guarantee to help you avoid the stress, accidents and potential heavy fines associated with Height Safety.

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