

IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

Court Reference: COR 2010 1037

FINDING INTO DEATH WITHOUT INQUEST

Form 38 Rule 60(2)

Section 67 of the Coroners Act 2008

I, Heather Spooner, Coroner having investigated the death of BERNARD WILKIE

without holding an inquest:

find that the identity of the deceased was BERNARD WILKIE

born on 25 March 1936

and the death occurred on 17 March 2010

at Royal Melbourne Hospital, Parkville

from:

- 1 (a) BLUNT HEAD INJURY
- 1 (b) FALL
- 2 WARFARIN THERAPY

Pursuant to section 67(2) of the **Coroners Act 2008**, I make findings with respect to **the following circumstances:**

1. Bernard Wilkie was 73 years of age when he died. He resided at 7 Anderson Street Skipton.
2. Mr Wilkie's medical history included Atrial fibrillation, Acute Left Ventricular Failure, Angina, Renal Impairment, Gastro Oesophageal Reflux Disease, Deafness, Psoriasis and Cataract Surgery. His medication at the time of his death included Warfarin, Noten, Coversyl, Lasix, Pepcidine and Tears Naturale.
3. Mr Wilkie's doctor described his health as stable. He was retired but maintained an active lifestyle.

Events Prior to Death

4. On 6 March 2010, Mr Wilkie was pruning roses on a garden arch at his residence. The garden arch is approximately 2.5 metres high at the apex and spans a concrete footpath that leads to the front door the residence.
5. Mr Wilkie suffered a head injury resulting from an unwitnessed fall.
6. Mr Wilkie walked into the house in a state of confusion with leaves all over his trousers. He had severe bruising and swelling around his right eye and bleeding from his head.
7. Mr Wilkie was not able to respond to questions being asked of him by his wife and collapsed.
8. Paramedics were called to the residence. Mr Wilkie's injuries were assessed and he was conveyed to Linton where he was transferred by air ambulance to the Royal Melbourne Hospital where he was admitted into Intensive Care.
9. Eleven days later on 17 March 2010 Mr Wilkie died at 2.00am.
10. Senior Constable Karaoglanis conducted an investigation into the circumstances of the death of Mr Wilkie. An extension ladder was located near the arch. Because the cause of the fall was not witnessed, the investigation was not able to ascertain the circumstances of cause of Mr Wilkie's injuries.

Post Mortem Examination

11. A post mortem examination was conducted by Forensic Pathologist Linda Iles at the Victorian Institute of Forensic Medicine on 18 March 2010 where the cause of death was determined which I agree with and the following comments made:

"...brain imaging demonstrated and (sic) skull fracture and traumatic intracranial haemorrhage...given that his injuries are well documented in his hospital medical record, the cause of death has been given as above without performing a post mortem examination."

Finding

I find that unfortunately Mr Wilkie died from the result of an unwitnessed fall which caused a fatal head trauma.

Comments

Pursuant to section 67(3) of the **Coroners Act 2008**, I make the following comments connected with the death:

In investigating the death of Mr Wilkie, I directed the Coroners Prevention Unit to provide a summary of previous deaths of a similar nature in Victoria and potential injury prevention measures.

The Coroners Prevention Unit's Research and Policy Team (RAPT) searched the CPU database and examined all structured narratives for the following terms: Fall, Unintentional, Ladder and Height. The Unintentional Death Investigation Team (UDIT) then reviewed the deaths identified by RAPT and further refined the list to exclude any deaths that involved the use of a scaffold rather than a ladder.

Seventy-seven deaths involving falling from ladders were identified between 1 January 2000 and 1 September 2011 in Victoria. On average, there were 6.6 deaths per year. The number of deaths per year appears to be stable.

Almost all (75 of 77, 97%) were male. The deceased were aged between 35 and 90 years, and over 65% percent of the deaths (n=52) were persons over the age of 65 years. This indicates an overrepresentation of the age group as they account for only 13.5% of the Australian population (Australian Bureau of Statistics, 2010). The average age of the deceased was 69 years. Many of the deceased were engaged in Do-it-Yourself home maintenance (DIY) (44%, n=34). The second most common activity was gardening, which includes pruning and fruit picking (25%, n=19).

In the three older age groups DIY was the most common activity, whereas in the 35- 44 age group most deaths occurred while the deceased was engaged in paid employment. Approximately 71% of the falls occurred at the deceased's home residence.

A Monash University Accident Research Centre (MUARC) study identified that between January 2005 and December 2006, 4550 people received hospital treatment for a ladder-related incident in Victoria, including 2447 hospital admissions (MUARC, 2008). This equates to an average of 6.2 people per day requiring hospital treatment for this type of injury.

The average ages of those who presented (46 years) and were admitted (56 years) to hospital were much younger than the average age of those who were reported to a coroner (69 years).

The majority of patients who were admitted to hospital had been using the ladder at home (84%). The remainder had been using the ladder in industry, trade and service areas, on farms or other public buildings. These findings support the contention that less people are injured when using ladders at work compared to home use and when they are injured in the workplace, the injuries sustained are less severe. D'Souza and colleagues (2007) analysed United States emergency department ladder-related injury data from 1990-2005. They found that the number of people treated in hospital for ladder related injuries increased almost 27% over the 16 year period of the study. This is consistent with Australian data that showed a significant rise in injury and serious injury from ladder falls between 2001 and 2005, especially in non-work related circumstances (Mitra et. al, 2007). Australian data shows that ladder falls in a work-related context are stable (Kent & Pearce, 2006).

Previous research has found that home maintenance injuries are more frequent and severe in people over the age of 60 (Ashby, Ozanne-Smith & Fox, 2007). This finding is consistent with the coronial and injury data. MUARC (2005) research suggests that there are significant barriers to preventing DIY related deaths in older people. MUARC's study involved focus groups with older people. Participants reported that they were motivated to perform home maintenance for three main reasons:

- satisfaction and pride;
- financial necessity; and
- fitness. (Ashby, et al, 2005)

The United Kingdom Health and Safety Executive (HSE) commissioned similar workshops to ascertain regular ladder users' attitudes towards ladder use. They found that ladder users are likely to identify ladder use as a risky activity but underestimate the extent of the risk. The researchers concluded that "The phrase that best sums up the typical view of falls from height is: 'it won't happen to me' (p.12, Bomel Limited, 2003)

Ladder designs can be categorised in terms of straight ladders (also called extension ladders) and A-frame step ladders. Mr Wilkie was using a straight ladder. Straight ladders appear to be involved in the majority of portable ladder accidents (Axelsson & Carter, 1995).

It has been reported that the main ways in which ladder falls occur are:

- the ladder shifts during use;
- the ladder remains stable but the user missteps, slips or over balances;

- the user is knocked from the ladder; or
- the ladder collapses (Clift, 2004).

Shepherd, Kahler and Cross (2006) reported that fatalities most commonly occurred when the user mis-stepped, slipped or overbalanced. The most common issue with extension ladders is the bottom of the ladder slipping (Axelsson & Carter, 1995). The next most common issue is the top of the ladder slipping.

Clift, Navarro and Thomas (2002) observed “the fact that patently dangerous tools and activities are responsible for lower accident rates than domestic step ladders suggest that there is a fundamental problem associated with the design and application of step-ladders to the task.” A number of studies suggest that ladders should be designed to be more slip resistant, however, none of these studies have provided guidance on how these improvements could be made (Clift, Navarro & Thomas, 2002; Seluga, Ojalvo & Obert, 2007).

This section contains information on current and proposed ladder-related safety initiatives. Occupational health and safety regulation and information pamphlets are the two main forms of prevention initiatives that are currently used. Both of these target occupational use. Proposed initiatives focus on design changes and alternatives to ladder use.

Regulation 3.3.4 of the Occupational Health and Safety Regulations 2007 (Vic) provide that employers have an obligation to take reasonable measures to ensure the safety of their employees when working at height by:

- Avoiding ladder use by conducting tasks on the ground where possible
- Using ‘passive fall prevention’ where possible (eg temporary work platforms, roof safety mesh and guard railing)
- Using rope access systems or other means of work positioning systems
- Using fall arrest systems
- If none of the above prevention strategies are reasonable then use a ladder
- which is fit for purpose, appropriate for the duration of the task and ensure
- that it is used in the correct manner

The Regulations therefore identify ladder use as the least preferable fall control measure.

In addition to the Occupational Health and Safety Regulations 2007, there are voluntary Australian Standards for ladder design and use (Standards Australia, 2000). The guidance contained in the Australian Standards Portable Ladders Part 5: Selection safe use and care (AS/NZS 1892.5:2000) is very similar to the information released in government occupational health and safety bodies' publications.

The ladder safety messages across all Australian jurisdictions are very similar. In summary, they all provide the following advice:

- The ladder should be supported or anchored at the base;
- The ladder should not be moved horizontally from the top;
- The ladder should be pitched at a ratio of four units up one unit across (4:1);
- The ladder should only be used by one person at a time;
- Three contact points with ladder at all times (e.g two hands and one foot);
- Use special care when working near powerlines;
- Never climb higher than the third rung from the top of the ladder;
- Do not use a ladder outside when it is windy;
- Do not carry items up the ladder, use a pulley system or have people hand things to you;
- Use the right ladder for the job;
- Wear slip resistant footwear;
- Ensure the ladder is well maintained;
- Check the ladder loading specifications and do not exceed them; and
- Ladders that comply to the Australian standards are preferred.

These publications are available on the internet. It is unclear whether they are distributed in other ways.

There has not been a strategic approach to the prevention of injuries related to falls outside the workplace (Mitra, 2007). In 1998, Esso funded MUARC to produce and circulate 'Do It Yourself Jobs: preventing injury' brochures aimed at:

- home handy men;

- retailers of DIY products and workplace managers; and
- workplace managers

No findings were published on the outcome of the brochure intervention (Martin, 2005), however, Ashby and colleagues (2005) noted that a lack of knowledge about where to find information impeded its take up. In the absence of this intervention, Bedi and Goldbloom (2008) found that the level of knowledge of Melbourne hardware store attendants in relation to ladder safety was very low. Although there is highly consistent and broadly adopted use recommendations for ladders, this advice is routinely ignored (Clift et al, 2002).

A number of studies have examined the stability of ladders. One study examined the efficacy of ladder stability devices that are marketed as minimising the risk of the ladder slipping (Clift, 2004). That study found that the stability devices were not beneficial and that rubber footing was preferable to fitting an attachment. Another study has recommended a change to the ladder standard to include a more rigorous stability test (Seluga et al, 2007). However, neither of these studies has resulted in a design change to ladders.

In the United Kingdom, the HSE have a 'ladder exchange' program that allows small and medium businesses to exchange their old ladders for new ladders. The program is not open to individuals and it is not clear whether it has been successful.

MUARC (2005) examined the feasibility and acceptability of lower risk alternatives to DIY tasks, and found that many older people would only accept alternatives once they had self-evaluated that they no longer had the skills or physical capability to carry out the task alone.

Focus-group participants were more interested in information on how to prevent injury and information on available DIY alternatives than in ceasing DIY activities.

Particularly MUARC suggested that older people be given:

- Information on high risk DIY activity and scenarios so they can use this
- information to avoid riskier activities
- Information about the implications of medications on their ability to work at
- height or operate powered equipment
- Information on suitable DIY alternatives

Many of the participants were reluctant to have other people perform tasks for them as they were concerned about the expense and took pride in completing the tasks themselves. As noted earlier, people generally under-estimate the risks associated with ladder use and this may affect people's self-assessment of the safety of performing home maintenance tasks (Bomel Limited, 2003).

As gardening was the second most common cause of ladder related fatality in Victoria between 2000-11 another alternative to ladder use may be long handled pruning and picking tools. The CPU was unable to find any evaluation of these items.

Mr Wilkie died as a consequence of falling from a ladder while pruning his roses. There have been 77 deaths from falling from a ladder in Victoria between 2000 and 2011. Most of those who have died were over the age of 65, and many of whom were engaged in home maintenance activities. The ladder-related injury rate is increasing in home ladder users but is stable in the work-related context. The risks associated with ladders are well understood and information on the correct use of ladders is widely available.

No strategic approach to injury prevention associated with home-maintenance related ladder falls in Australia could be identified. Preventing injuries arising from DIY activities around the home has been long recognised as problematic, with many individuals undertaking such work not out of necessity, but rather personal fulfilment. Safer alternatives to ladder use that allow older people to continue doing home maintenance activities exist but there is little information about their efficacy.

Recommendation

Pursuant to section 72(2) of the **Coroners Act 2008**, I make the following recommendation connected with the death:

That the Department of Health consider the magnitude and cost of injuries and deaths from ladder falls in Victoria, and determine whether the Injury Prevention Plan could implement effective safety interventions to reduce the incidence and severity of ladder falls, particularly amongst older Victorians.

I direct that a copy of this finding be provided to the following for their action:

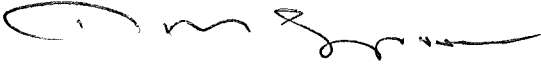
Department of Health Injury Prevention Division

I direct that a copy of this finding be provided to the following for their information only:

The Family of Bernard Wilkie

Senior Constable Karaoglanis, Investigating Member of Victoria Police

Signature:



HEATHER SPOONER

CORONER

Date: 9 January 2014

