Alcohol and Injury

Recent studies show that injury and death due to trauma are amongst the most important consequences of alcohol misuse. Drinking alcohol has been associated with risk of injury in many settings, including vehicle and cycling accidents, incidents involving pedestrians, falls, fires, land and water sports and recreational activities, and violence.

Alcohol can increase the likelihood of injuries or death:

- from accidents, by the effects of alcohol on such abilities as reaction time, reasoning, co-ordination, care and judgement;
- from violence, by the effects of alcohol on factors such as self-control, impulsivity, and the capacity to resolve conflicts in non-violent ways;
- from self-harm, with heavy drinking as a major risk factor for suicide and suicidal behaviour among both young people and adults.

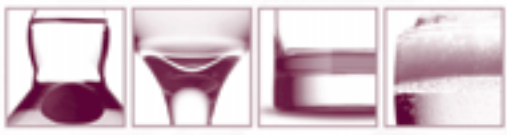
The risk of injury from alcohol, and guidelines to lower such risks

Risk of injury starts to increase at relatively low levels of alcohol intake, and it increases as the level of intake increases:

- The risk increases more for people whose level of consumption varies significantly from time to time, and the risk is highest for those who occasionally drink much more than their usual amount.
- Young people have greater vulnerability to alcohol than adults do. As well as usually being physically smaller, they lack experience of drinking and its effects; and the loss of inhibitions and decision-making skills place young people at particular risk of violence, accidents and sexual coercion.
- The advent of puberty and later adolescence are often accompanied by taking on a range of risk-taking behaviours and/or potentially dangerous activities, both of which can considerably heighten the risk associated with drinking.
- In older people, the risk of falling increases with older age, while driving skills may be affected by problems such as visual loss and slowed reaction time. Alcohol can increase the risks in both of these areas.

Studies from several countries, including Australia, show that:

- There is a significant increase of risk of injury or death from accident, assault and self-harm from drinking above the daily limits set in the NHMRC's guidelines:
  - For *men*, the limit is set at *not more than 6 standard drinks in any one day*; and
  - For *women*, the limit is set at *not more than 4 standard drinks in any one day*; and women are at increased risk of injury for any given level of alcohol intake.
- The safety of drinking depends not only on how much a person drinks, but also on the rate of drinking, the environment, and what the person is doing during and after drinking. Eating while drinking helps to reduce intoxication and, therefore, the risk. The risk of injury or violence, depression and suicide attempt are all influenced by the setting in which people are drinking.
- Very low levels of alcohol can affect judgement and performance, and even a very small effect may be relevant where a high degree of skill is needed, where the risk is already high, or where the safety of others is involved, including recreational and occupational activities such as



flying, water sports, skiing, the use of complex or heavy machinery or farm machinery, and driving. The NHMRC therefore recommends following its guideline that, to avoid the risk of harm to the drinker and others:

— When undertaking activities that involve risk or a degree of skill, do not drink alcohol before or during such activities

The associations between alcohol and injury in Australia

The misuse of alcohol is associated with a range of injuries that can result in serious consequences, including death. In Australia it has been estimated that:

- Alcohol is associated with 44% of fire injuries, 34% of falls and drowning, 30% of car accidents, 47% of assaults, 16% of child abuse, 10% of suicides and 7% of industrial machine accidents.
- Alcohol is an added risk factor for injury and death during activities such as swimming, diving, surfing, boating, water skiing and fishing, and accounts for 32% of drownings in males aged 15-29 years.
- Blood alcohol concentrations (BACs) as low as 0.04 to 0.05 may affect psychomotor skills and increase the risk of injury in circumstances such as driving.
  - — *At 0.05 BAC, the risk of being involved in a road crash doubles; 0.10 the risk is more than 7 times as high as at zero BAC; and at 0.15 the risk is 25 times higher.*
  - — *Elevated blood alcohol levels are implicated in one third of all road crash deaths, and 650-700 deaths each year occur in situations where the vehicle controller or pedestrian has a BAC of 0.05 or more.*
- Injuries caused by accidents or violence are the most common types of harm incurred by young people and young adults as a result of drinking. For example:
  - — *Between 1990 and 1997, 52% of all serious alcohol-related road injuries were sustained by people aged 15-24 years, with a further 23% sustained by adults aged 25-34 years.*
- Alcohol is an important factor in homicide, with 34% of offenders and 31% of victims being under the influence of alcohol at the time.

Other relevant Fact Sheets:

- *Alcohol: facts and figures*
- *Alcohol and the law*
- *Alcohol and young people*
- *Alcohol and young adults*
- *Harms associated with alcohol*
- *The effects of alcohol on the body*
- *What is a standard drink?*

Principal source

National Health and Medical Research Council (NHMRC) (2001). *Australian Alcohol Guidelines: Health Risks and Benefits*. NHMRC, Canberra.

Other sources

Alcohol in Australia: Issues and Strategies. (2001) Commonwealth Department of Health and Aged Care, Canberra.

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Stockwell T, McLeod R, Stevens M, Phillips M, Webb M and Jelinek G (2002). Alcohol consumption, setting, gender and activity as predictors of injury: a population-based case-control study. *Journal of Studies on Alcohol*, 63 (33): 372-379.