Falls and Alcohol

Australian Guidelines for Alcohol Consumption

• Guideline 1: For healthy men and women, drinking no more than two standard drinks on any day reduces the lifetime risk of harm from alcohol-related disease or injury.

• Guideline 2: For healthy men and women, drinking no more than four standard drinks on a single occasion reduces the risk of alcohol-related injury arising from that occasion.

There are 2 other guidelines related to children under 17, and pregnant women.

National Health and Medical Research Council’s 2009 Australian Guidelines to Reduce Health Risks from Drinking Alcohol

What is a standard drink?

<table>
<thead>
<tr>
<th>Drink</th>
<th>Standard Drink</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can/Stubbie low-strength beer</td>
<td>0.8</td>
</tr>
<tr>
<td>Can/Stubbie mid-strength beer</td>
<td>1</td>
</tr>
<tr>
<td>Can/Stubbie full-strength beer</td>
<td>1.4</td>
</tr>
<tr>
<td>100ml wine (13.5% alcohol)</td>
<td>1</td>
</tr>
<tr>
<td>30ml nip spirits</td>
<td>1</td>
</tr>
<tr>
<td>Can spirits (approx 5% alcohol)</td>
<td>1.2 to 1.7</td>
</tr>
</tbody>
</table>
Types of Drinking
- Appropriate (within guidelines)
- Binge (drinking too much on one occasion)
- Chronic (long term alcohol use outside of guidelines)

Health Benefits of Alcohol
- 1 standard drink per day may reduce risk of heart disease if over 45 years old. Could potentially:
  - reduce blood clots
  - increase good cholesterol
- No additional benefit from drinking larger amounts
- Do not encourage people to drink if they don’t – other ways to get benefits
Alcohol and Falls

• Affects all ages
• Falls 3rd leading cause of unintentional injury death (US, 25-59 yos)
• Associations with alcohol in Australia (2001):
  - 44% of fire injuries
  - 34% of falls and drowning
  - 30% of car accidents

Alcohol, Falls and Injuries

• In a review of 21 studies, alcohol was present acutely in 21% to 77% of fatal falls and 17% to 53% of nonfatal falls (Mukamal 2004).

• In a 3 year study of a UK community rehab service, falls accounted for 25% of TBI’s - 30% of these involved alcohol (Friedland 2013).
Pattern & Severity of Injury

• Alcohol vs No Alcohol
  – Alcohol (people between 16-60 yo)
    • Type – more severe craniofacial injury
    • Severity – correlated to blood alcohol concentration
      – lower soft tissue injuries
      – middle limb fractures
      – higher head injuries

Johnston 2004

How may alcohol cause falls

• Cognitive, visual and motor impairments
  - poor judgement, coordination, reaction time, reaction to falls, assessing risky situations (e.g. potholes)
  - drowsiness and decreases alertness, postural imbalance, potential to develop orthostatic hypotension
Alcohol and Ageing

• 55% of adults age 65 and over drink alcohol. (US data, 2012-2013 National Epidemiologic Survey on Alcohol and Related Conditions III)

• Older adults don’t drink as much as younger people.

• **Interesting:** Studies have shown that low alcohol consumption can act as a protective factor against falls risk in older men (Cawthorn 2006)

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Australian Guidelines for Alcohol Consumption – older people

Older people who drink alcohol are advised to:

• consider drinking less than the levels set in the guidelines for the general population (four standard drinks in a session will likely pose an unacceptable risk in a frail elderly person); and

• further reduce their drinking or stop it altogether, if they are taking medications (to avoid harmful interactions with those medications).

• seek advice from a health professional

National Health and Medical Research Council’s 2009 Australian Guidelines to Reduce Health Risks from Drinking Alcohol
Alcohol, Falls & older people

- The relationship is contested, but the majority of research agrees that it is significant.
  - One study (Mukamal et al., 2004).
    - 14 or more drinks per week increased the risk of falls by 25%


Why are older people more at risk from alcohol?

- The volume of total body water decreases with age
- The CNS may find it harder to tolerate alcohol with age,
- Heavy drinking may decreases bone repair and regrowth after a fracture due to poor health
- Older people often take regular medication, which may interact with alcohol to cause side effects.

Alcohol and Health Problems

- Pre-existing conditions

- Contributing to new conditions
  - neuropathy, myopathy,
  - postural hypotension, cardiovascular disease, neurological conditions

Alcohol and Medicines

- Interaction with medications

- Among people aged over 70, alcohol was a more important factor than benzodiazepines
  – Are the effects of alcohol and benzodiazepines are very similar?

Lima 2009
Alcohol and Bones

• Heavy alcohol → poorer health → lower bone mineral density & nutritional deficiency → ? fracture.

• ?? small amounts of alcohol may promote osteoblasts (bone forming cells)

Identifying if alcohol related to a fall

• Would you ask - "Were you drinking?"
  – ??embarrassed answering truthfully if alcohol might have had a role in the fall.
• There may be significant time delays between drinking, the fall, and actual hospitalization and any blood alcohol testing.
Under recognised?

• Alcohol use can go unrecognised in older people
  – changes can be mistaken for medical or psychiatric conditions common among older people,
  – such as depression, insomnia, poor nutrition and frequent falls.
• Alcohol-related problems may go undiagnosed or be treated inappropriately.
• Health care workers should therefore routinely discuss alcohol use with older patients.

Management of inappropriate alcohol use in older people

• What should be done?