

## Alcohol related brain impairment

*New Australian alcohol guidelines for low-risk drinking have been released by the NHMRC in collaboration with the Department of Health and Ageing. These are available on [www.nhmrc.gov.au](http://www.nhmrc.gov.au). Better Health Channel information will be updated shortly.*

Alcohol is one of the many causes of acquired brain injury. The injury inflicted by alcohol abuse is referred to as alcohol related brain impairment (ARBI). More than 2,500 Australians are treated for ARBI every year, with approximately 200,000 Australians currently undiagnosed. Around two million Australians are potentially at risk of developing ARBI due to their drinking habits.

Just how much damage is done depends on a number of factors. These include individual differences, as well as the person's age, gender, nutrition and their overall pattern of alcohol consumption.

A person with ARBI might experience problems with memory, cognitive (thinking related) abilities and physical coordination. A younger person has a better chance of recovery because of their greater powers of recuperation. However, the effects of ARBI can be permanent for many sufferers.

### Alcohol and brain injury

Brain injury can be caused by alcohol because it:

- Has a toxic effect on the central nervous system
- Results in changes to metabolism, heart functioning and blood supply
- Interferes with the absorption of vitamin B1 (thiamine), which is an important brain nutrient
- May be associated with poor nutrition
- Can cause dehydration, which may lead to wastage of brain cells
- Can lead to falls and accidents that injure the brain.

### Alcohol consumption and ARBI

Alcohol is one of the most popular drugs in Australia – over eighty per cent of the population are current alcohol users. Alcohol consumption ranges from light (social drinkers) to heavy consumption. Decline in cognitive functioning is gradual and depends on the amount of alcohol consumed and for how long.

Alcohol related brain injury impairment is more likely to occur if a person drinks heavily on a regular basis over many years. Men who consume six standard drinks a day for more than eight years and women who consume three standard drinks a day for more than eight years are placing themselves at risk of potentially causing damage to their brain from alcohol.

It is also possible to develop ARBI over a short period of time, if the drinking is aggressive enough. This is known as 'binge drinking' or 'heavy episodic drinking' and is a short-term, high risk way of drinking alcohol. Men who consume more than seven standard drinks and women who consume more than five standard drinks on any single occasion are at risk.

Safe levels of alcohol consumption (not recommended for pregnant women and people aged under 25) include:

- **For men** – a maximum of four standard alcoholic drinks a day, with at least two alcohol free days every week.
- **For women** – a maximum of two standard alcoholic drinks a day, with at least two alcohol free days every week.

### Disorders associated with ARBI

ARBI is associated with changes in cognition (memory and thinking abilities), difficulties with balance and coordination, and a range of medical and neurological disorders. Some alcohol related disorders include:

- **Cerebellar atrophy** – the cerebellum is the part of the brain responsible for muscle coordination. Damage results in difficulties with balance and walking, which is called ataxia.
- **Frontal lobe dysfunction** – the brain's frontal lobes are involved in abstract thinking, planning, problem solving and emotion. Damage results in cognitive difficulties.
- **Hepatic encephalopathy** – many people with alcohol related liver disease develop particular psychiatric symptoms, such as mood changes, confusion and hallucinations.
- **Korsakoff's amnesic syndrome** – this includes a loss of short-term memory, an inability to acquire new information and confabulation (the person fills in gaps in their memory with fabrications that they believe to be true).
- **Peripheral neuropathy** – the extremities are affected by numbness, pain and pins and needles.
- **Wernicke's encephalopathy** – this is a disorder caused by a severe deficiency of vitamin B1. Some of the symptoms include ataxia, confusion and problems with vision.

### Treatment

A person with suspected ARBI needs to be assessed by a neuropsychologist. Treatment depends on the individual and the type of brain damage sustained.

### Helping people with ARBI

People with impaired brain function can be helped if the demands placed on them are reduced. A predictable routine, which covers all daily activities, can also be a great help.

Carers might like to consider the following points when communicating with people with ARBI:

- Break down information and present one idea at a time
- Tackle one problem at a time
- Allow the person time to work at their own pace
- Minimise distractions
- Avoid stress
- Allow for frequent breaks and rest periods.

### Where to get help

- Your doctor
- **arbias** – specialist services for people with alcohol and substance related brain impairment Tel. (03) 8388 1222
- Family Drug Help – for information and support for people concerned about a relative or friend using drugs Tel. 1300 660 068
- Your regional Department of Human Services office

### Things to remember

- Alcohol has a toxic effect on the central nervous system and can cause significant brain impairment.
- ARBI is more likely in people who drink heavily over a long period of time, but excessive binge drinkers are also at risk.
- The symptoms depend on which part of the brain has been damaged, but can include problems with coordination, thinking, planning, organisation, memory and perception.

**This page has been produced in consultation with, and approved by:**

ARBIAS

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- This Better Health Channel fact sheet has passed through a rigorous approval process. For the latest updates and more information visit [www.betterhealth.vic.gov.au](http://www.betterhealth.vic.gov.au).

