

Alcohol related dementia and Wernicke-Korsakoff syndrome

This help sheet discusses alcohol related dementia and Wernicke-Korsakoff syndrome, their causes, symptoms and treatment.

What is alcohol related dementia?

Dementia describes a syndrome involving impairments in thinking, behaviour and the ability to perform everyday tasks. Excessive consumption of alcohol over many years can sometimes result in brain damage that produces symptoms of dementia. Alcohol related dementia may be diagnosed when alcohol abuse is determined to be the most likely cause of the dementia symptoms.

The condition can affect memory, learning, reasoning and other mental functions, as well as personality, mood and social skills. Problems usually develop gradually. If the person continues to drink alcohol at high levels, the symptoms of dementia are likely to get progressively worse. If the person abstains from alcohol completely then deterioration can be halted, and there is often some recovery over time.

Excessive alcohol consumption can damage the brain in many different ways, directly and indirectly. Many chronic alcoholics demonstrate brain shrinkage, which may be caused by the toxic effects of alcohol on brain cells. Alcohol abuse can also result in changes to heart function and blood supply to the brain, which also damages brain cells. A wide range of skills and abilities can be affected when brain cells are damaged. Chronic alcoholics often demonstrate deficits in memory, thinking and behaviour. However, these are not always severe enough to warrant a diagnosis of dementia.

Many doctors prefer the terms ‘alcohol related brain injury’ or ‘alcohol related brain impairment’, rather than alcohol related dementia, because alcohol abuse can cause impairments in many different brain functions. An affected person is likely to experience a variety of symptoms and they may not be consistent with those typically associated with other forms of dementia.

What is Wernicke-Korsakoff syndrome?

Thiamine deficiency is common in people who consume excessive amounts of alcohol. This is because many heavy drinkers have poor nutrition, their diet does not contain enough essential vitamins, and because excessive alcohol can inflame the stomach lining and impede the body’s ability to absorb vitamins. Thiamine (vitamin B1) helps brain cells produce energy from sugar. When thiamine levels are too low, cells are unable to generate enough energy to function properly.

Wernicke’s encephalopathy and Korsakoff’s syndrome are conditions that are both due to brain damage caused by a lack of thiamine. While they can also occur as a result of other conditions, the most common cause is alcohol abuse. These conditions produce symptoms similar to dementia including memory loss and confusion. While Wernicke-Korsakoff syndrome is sometimes referred to as alcoholic dementia or alcohol related dementia, it is caused by thiamine deficiency, rather than being a direct result of alcohol abuse.

Wernicke’s encephalopathy affects eye movement and vision, balance and coordination, and causes confusion. If not treated quickly, Wernicke’s encephalopathy can cause permanent brain damage and be followed by the ongoing symptoms of Korsakoff’s syndrome. This condition results in severe short-term memory loss.

Wernicke's encephalopathy

Wernicke's encephalopathy usually develops suddenly. There are common symptoms, though these are not always present, so diagnosis may be difficult.

Typical symptoms include:

- Jerky eye movements or paralysis of muscles moving the eyes or double vision
- Loss of muscle coordination, poor balance, staggering or inability to walk
- Confusion

If Wernicke's encephalopathy is suspected, immediate treatment is essential. Treatment consists of high doses of thiamine. If treatment is carried out in time, most symptoms should be reversed. However, if Wernicke's is left untreated, or is not treated in time, permanent brain damage may result, especially in deeper parts of the brain. In some cases the person may die.

Korsakoff's syndrome

If Wernicke's encephalopathy is left untreated, or is not treated soon enough, Korsakoff's syndrome may follow. However, Korsakoff's syndrome is not always preceded by Wernicke's encephalopathy; it can develop on its own. It usually develops gradually. Brain damage occurs in areas of the brain important for short-term memory.

The main symptom is memory loss – particularly of events occurring after the onset of the condition. Sometimes, memories of the more distant past can also be affected. Many other abilities may remain intact. Other symptoms of Korsakoff's syndrome can include:

- Inability to form new memories or learn new information
- Personality changes
- Making up stories to fill gaps in memory (confabulation)
- Seeing or hearing things that aren't really there (hallucinations)
- Lack of insight into the condition

If the person continues to drink heavily and has poor nutrition, Korsakoff's syndrome is likely to continue to progress with symptoms worsening over time. The progress of Korsakoff's syndrome can be halted if the person completely abstains from alcohol, adopts a healthy diet and takes vitamin supplements. Thiamine supplementation may help prevent further brain damage from occurring.

The prognosis for someone with Korsakoff's syndrome depends on how soon treatment begins and how much brain damage has already been done. Any improvement usually occurs within a period of up to two years after stopping drinking. Some symptoms, especially the loss of memory and thinking skills, may be permanent. People usually retain skills that they acquired before developing the disorder, so they are often able to manage with appropriate support. Some unfortunately make no recovery, and may need long-term care.

Who gets alcohol related dementia or Wernicke-Korsakoff syndrome?

Anyone who drinks excessive amounts of alcohol over a period of years may develop these conditions, but most do not. It is not known why some very heavy drinkers develop dementia or Wernicke-Korsakoff syndrome while others do not. Diet and other lifestyle factors may play a role.

These conditions most commonly affect men over the age of 45 with a long history of alcohol abuse, though men and women of any age can be affected. The risk clearly increases for anyone who drinks high levels of alcohol on a regular basis for a long time.

The National Health & Medical Research Council of Australia recommends that to reduce the risk of all health problems related to alcohol, adults should drink no more than two standard drinks on any day. This limit applies to both men and women.

What about moderate alcohol consumption?

It must be remembered that these conditions are associated mostly with regular heavy alcohol consumption over many years. In contrast, moderate alcohol drinking can actually be beneficial for brain health and is associated with a reduced risk of developing dementia due to Alzheimer's disease or other causes. Following the national guidelines and having no more than two standard drinks on any day is the best way to avoid alcohol related health problems.

Further support for people with problems with alcohol

A range of treatment options are available to help people who have problems with alcohol. Prompt treatment is important for people who develop changes in brain function. Talk to your doctor for advice and referrals.

Call the Australian Drug Foundation on **1300 85 85 84** or visit druginfo.adf.org.au for information about the help available and contacts in each State and Territory. Arbias provides a range of specialist services for people with alcohol and other drug related brain injury. Visit arbias.org.au or call **03 8388 1222** in Victoria and **02 9708 0027** in New South Wales.

Alcoholics Anonymous provides support and programs for people who have problems with alcohol, and information for families and friends. Visit aa.org.au or call **1300 22 22 22**.

Further Information

Dementia Australia offers support, information, education and counselling. Contact the National Dementia Helpline on **1800 100 500**, or visit our website at dementia.org.au



For language assistance phone the Translating and Interpreting Service on **131 450**