

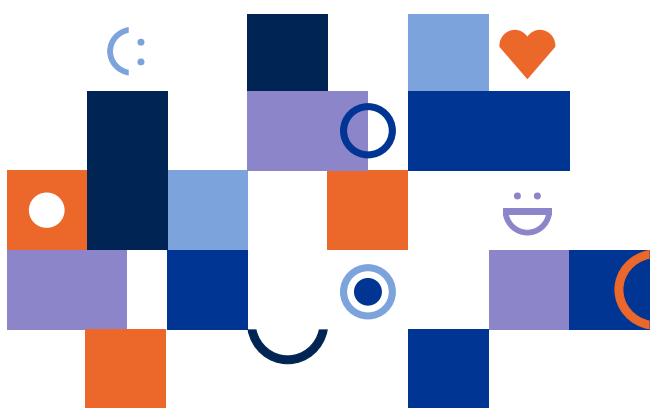


# Factsheet



## Introduction

Dementia is a broad term used to describe a set of brain disorder symptoms that may include memory loss and difficulties with thinking, problem-solving or language. There are many different types and causes of dementia which collectively, annually, costs the UK economy £26.3 billion.<sup>1</sup>



Many researchers believe regular excessive drinking increases the risk of the most common forms of dementia such as Alzheimer's and vascular dementia,<sup>2</sup> but the evidence base is still emerging.

**Prolonged heavy alcohol misuse can result in the development of 'alcohol-related dementia'<sup>3</sup> and Wernicke-Korsakoff's syndrome, an alcohol-related brain disorder that may not strictly speaking be a dementia, but has similar symptoms.**

Partial recovery from both conditions is possible with abstinence from alcohol, a healthy diet and large doses of thiamine<sup>4</sup> (vitamin B1) making these conditions different from other dementias which usually get progressively worse.

### What is the relationship between alcohol and dementia?

The exact relationship between alcohol and dementia is debated. Alcohol, a neurotoxin, can cause damage to nerve cells and blood vessels, leading to brain shrinkage. People who heavily misuse alcohol also often suffer injuries to the head – from falls or fights – and have a poor diet, all of which can contribute to alcohol related dementia.<sup>4</sup>

Drinking alcohol earlier in life may substantially increase the risks of developing early-onset dementia (before the age of 65). Frequent drinking in young adults is the biggest risk factor for men who develop early-onset dementia outweighing a family history of dementia, use of other types of drug or suffering from any other health condition.<sup>5</sup>

What is clear is that long term alcohol use can damage the brain and lead to cognitive impairment.<sup>6</sup>

The brains of men who drank more than four units of alcohol a day over ten years – approximately two or three drinks a day – aged at a much higher rate than non-and light-alcohol drinkers.<sup>7</sup> Brain capacity naturally declines with age but the brains of men who regularly drink alcohol appear between 1.5 to 5.7 years older than their healthier counterparts.

Many alcoholics who give up drinking continue to exhibit poorer memory,<sup>8</sup> lower attention span and problem solving skills for up to a year after they quit.<sup>9</sup> Although normal cognitive function appears to return after a year.

# Alcohol and Dementia



## Alcohol-related brain damage

Long term heavy alcohol consumption is linked with the development of 'alcohol-related dementia'; a broad set of dementia-like symptoms which can include problems with memory, attention, learning new tasks and reasoning.

Long term heavy alcohol use can also result in the development of Wernicke-Korsakoff's syndrome. Korsakoff syndrome is a chronic memory disorder caused by severe deficiency of thiamine (vitamin B-1) which is often, but not always preceded by an episode of Wernicke encephalopathy. Wernicke's is an acute brain reaction to severe lack of thiamine. Prolonged excessive drinking often contributes to poor eating habits – often alcohol replaces food - and it disrupts the stomach's ability to absorb crucial vitamins and nutrients including thiamine.<sup>1</sup>

Wernicke's usually has four main symptoms – being very underweight, having involuntary eye movements or paralysis of the eyes, poor balance or disorientation and mild memory loss. If Wernicke's is diagnosed and treated, it is usually reversible. If not, and drinking is continued 85% will go on to develop Korsakoff's syndrome.<sup>10</sup> Korsakoff's syndrome is characterised by severe short term memory loss, personality changes and the development of memory confabulation.<sup>1</sup>

The symptoms of both alcohol-related dementia and Wernicke-Korsakoff's syndrome can overlap.<sup>11</sup> Treatment for alcohol related dementia is the same as for Wernicke-Korsakoff's syndrome; abstinence; high doses of thiamine; better diet; and support. Unlike most dementias, partial recovery from both conditions is possible. As with Wernicke-Korsakoff's, symptoms of alcohol related dementia may remain stable or even improve over several months of abstinence. For this reason researchers increasingly group alcohol-related dementia and Wernicke-Korsakoff's under the broader term of 'alcohol-related brain damage'.

## To Conclude

Alcohol misuse can damage the brain causing cognitive impairment and may contribute to common forms of dementia such as Alzheimer's, although the evidence is still emerging. Prolonged alcohol misuse can cause alcohol-related dementia and Wernicke-Korsakoff syndrome, dementia-like conditions which are increasingly termed as 'alcohol-related brain damage'.

## References



<sup>1</sup> MD Kopelman *et al*, "The Korsakoff Syndrome: clinical aspects, psychology and treatment", *Alcohol and Alcoholism*, (January 2009), Vol 44 No 2, pp. 148 - 154

<sup>2</sup> The Alzheimer's Society, [accessed online 20 May 2015 [http://www.alzheimers.org.uk/site/scripts/documents\\_info.php?documentID=102](http://www.alzheimers.org.uk/site/scripts/documents_info.php?documentID=102)]

<sup>3</sup> The Alzheimer's Society, "Factsheet: What is Korsakoff's Syndrome?" [accessed 20 May 2015 online at <http://www.alzheimers.org.uk/factsheet/438>]

<sup>4</sup> Ibid

<sup>5</sup> P Nordström *et al*, "Risk factors in late adolescence for young-onset dementia in men: a nationwide cohort study", *JAMA Internal Medicine*, (2013), Vol 173 No 17, pp. 1612 - 1618

<sup>6</sup> NHS Choices, "Alcohol misuse – risks", (October 2013), < <http://www.nhs.uk/Conditions/Alcohol-misuse/Pages/Risks.aspx>, [accessed 15/5/15]

<sup>7</sup> S Sabia *et al*, "Alcohol consumption and cognitive decline in early old age," *Neurology*, (January 2014), Vol 82, pp. 332 - 339

<sup>8</sup> C Whiteley *et al*, "Autobiographical memory in detoxified dependent drinkers", *Alcohol and Alcoholism*, (March 2009), Vol 44 No 4, pp. 429 - 430

<sup>9</sup> K Stavro *et al*, "Widespread and sustained cognitive deficits in alcoholism: a meta-analysis", *Addiction Biology*,

<sup>10</sup> M Victor *et al*, *The Wernicke-Korsakoff Syndrome and related neurological disorders due to alcoholism and malnutrition*, (1989), 2nd Edition, Philadelphia: F.A. Davis

<sup>11</sup> The Alzheimer's Society, "Factsheet: What is Korsakoff's Syndrome?" [accessed 20 May 2015 online at <http://www.alzheimers.org.uk/factsheet/438>]

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