

# KEY TIPS ON HYDRATION

## HYDRATION AND HANGOVERS

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Most adults have experienced a hangover at some point, but what is really happening physiologically and can hydration status affect the severity of a hangover?

A hangover is a group of acute symptoms associated with the aftermath of an episode of high alcohol consumption. The amount of alcohol required to cause a hangover differs widely between sufferers and is related to habitual intake, alcohol sensitivity, and possibly also to hydration status<sup>1,2</sup>. The higher the sensitivity, the less alcohol is required to induce hangover symptoms, although interestingly, people with a low sensitivity experience more hangovers as they are more likely to overindulge<sup>2</sup>.

### SIGNS OF A HANGOVER INCLUDE:

- Headache
- Nausea
- Vomiting
- Tachycardia (accelerated heart beat)
- Dizziness
- Lethargy
- Irritability
- Thirst
- Difficulty concentrating



### Causes

Alcohol is a non-essential nutrient that provides a source of energy (7 kcal per gram) but which cannot be stored by the body, necessitating immediate breakdown by the liver. A hangover is thought to be caused by a combination of physiological effects which have a direct consequence for wellbeing as summarised below.

Physiological impact of alcohol intoxication	Potential symptomatic outcome
Excess urination due to diuretic effect of alcohol leading to hypohydration	Headache, irritability
Stomach irritation, leading to excess acid production, slower gastric emptying	Nausea, vomiting
Hypoglycaemia	Dizziness, moodiness, weakness
Inflammatory response	Poor appetite
Vasodilation	Dizziness, headache
Poor sleep quality	Fatigue, daytime sleepiness

In addition, the breakdown of congeners, fermentation products responsible for the taste and aroma of alcoholic drinks, can exacerbate feelings of nausea and headache<sup>3</sup>. Examples include esters and aldehydes.

### Role of hydration

As mentioned, hypohydration is a major issue due to the diuretic effects of alcohol mediated through suppression of anti-diuretic hormone (ADH)<sup>4</sup>. However, the impact of alcohol on ADH, which helps to retain water in the body, is not consistent and varies individually as well as becoming less pronounced in regular, heavy drinkers. A study<sup>5</sup> in seven healthy men under different conditions of intoxication found an association between high plasma ADH levels and greater nausea and vomiting. The authors explained this by suggesting that individuals with the worst hangover symptoms may have had a poorer hydration status prior to alcohol consumption and/or a greater sensitivity to ADH triggering mechanisms.



Therefore, ensuring proper hydration before, during and after alcohol consumption is likely to lessen the impact of alcohol's diuretic effects and may reduce hangover symptoms. This can include water consumption, as well as consumption of fruit juices and soft drinks, since readily absorbed carbohydrates can help to maintain normal glycaemia<sup>6</sup>. Choosing alcoholic drinks with a lower alcohol content, for example weak beer or spirits well diluted with mixers, may help to preserve hydration status.

### Hangover cures

There are no true hangover cures. The only way to avoid a hangover is abstinence or responsible drinking. A systematic review<sup>7</sup> of eight randomised controlled trials considered the effects of several drugs, and natural compounds such as borage, artichoke extract and yeast. The results showed a modest significant effect only for tolfenamic acid, gamma linolenic acid from *Borago officinalis*, and a yeast-based preparation, but each of these conclusions was based on only one randomised controlled trial. The conclusion of this review was that "No compelling evidence exists to suggest that any conventional or complementary intervention is effective for preventing or treating alcohol hangover."

## TIPS FOR REDUCING THE SEVERITY OF HANGOVERS INCLUDE:

- Alcoholic beverages should be consumed in moderate amounts only
- Prepare the body for alcohol consumption by eating a meal containing slow release carbohydrates (e.g. pasta) and protein, and by drinking plenty of non-alcoholic fluids
- Alternate between alcoholic and non-alcoholic drinks
- Be aware of how many units are being offered, e.g. glasses of wine can be deceptively high in alcohol
- Never use alcoholic drinks to quench thirst—instead start with a glass of water or soft drink
- Drink several glasses of water before sleeping. Ensure water is available during the night

#### References

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