

Can alcohol cause seizures?

The relationship between alcohol, epilepsy and seizures is a complex issue and worth discussing with a health professional. Seizures related to alcohol misuse are more common than with any other form of substance abuse. Alcohol has been known to trigger or worsen seizures when associated with alcoholism or 'binge' drinking.



Most alcohol related seizures occur with:

- **Alcohol withdrawal** - Seizures can occur within the first 6-48 hours¹ after a chronic drinker suddenly stops drinking alcohol. If these seizures happen often and the alcohol abuse has occurred over years, damage to brain tissue may result. This can lead to the development of epilepsy and chronic seizures. **If you have an alcohol problem, and want to change, don't do it alone. Detox and treatment for alcoholism usually require medical supervision and a lot of support. Plan it with a qualified professional or rehab centre to avoid withdrawal seizures.**
- **Alcohol toxicity** - This is less common, but happens when someone has ingested a large amount of alcohol in a short period of time and the concentration in the bloodstream is poisonous to the body.
- **Excessive fluid and metabolic changes in the body** - Drinking large amounts of alcohol over a short period of time will create an imbalance of fluids and electrolytes in the body, causing a dehydrating effect, particularly with a substance like beer.
- **Trauma** - Injuries may occur from accidents or falls while the person is intoxicated.
- **Vitamin or nutritional deficiencies** - Chronic alcohol abuse will affect the absorption of nutrients and is often associated with unhealthy diet.
- **Not taking medications** - Chronic or binge drinking can result in poor memory, missed medications and lack of routine. Not taking antiepileptic medications can cause prolonged withdrawal seizures.

How alcohol affects antiepileptic medications

People taking antiepileptic medications are likely to be more sensitive to the effects of alcohol. Alcohol can interfere with the metabolism of medications and therefore increase the chance of seizures. Some antiepileptic medications can enhance the effects of alcohol and people can feel intoxicated after drinking only a small amount.

Missing a dose, taking extra medication or altering the time of taking regular antiepileptic medications before drinking will not alter this reaction and may cause additional adverse effects or seizures.

Can people with epilepsy drink alcohol?

Opinions vary, and some medical professionals recommend that alcohol should be avoided at all times when taking antiepileptic medications, while others say a moderate amount will do no harm.

Several studies have shown that small to modest amounts of alcohol do not increase seizure frequency or drastically change the blood levels of AEDs.² The effects of alcohol differ greatly from person to person but adults with epilepsy should be able to drink alcohol in small amounts [1-2 drinks/occasion, no more than 3-6 drinks/week].

There are times when it is a bit more risky to drink alcohol, such as if you are inclined to often forget your medications, or if you have difficulty limiting your alcohol intake or have had alcohol related seizures in the past.

It is important to talk to a doctor about the possible effects of alcohol on your seizures and antiepileptic medications.

¹ <http://www.ncbi.nlm.nih.gov/pubmed/14594442>
² <http://onlinelibrary.wiley.com/doi/10.1046/j.1528-1157.2001.19301.x/full>

Fact Sheet: Alcohol and Epilepsy

Mixing alcohol with other substances

All too often, alcohol is mixed with other substances or medication. Many combinations can significantly increase the risk of overdosing and enhancing the effects of the substances. There is little research regarding how this affects someone with epilepsy or their medications, but the reality is, mixing alcohol with other drugs and medications is not a good choice and can potentially be very harmful.

DRUG	EFFECTS	MIXING WITH ALCOHOL
Marijuana	A 2-4 hour high with signs of bloodshot eyes, slowed motor skills and reaction time, impaired recall (memory), distorted perceptions of time and space.	Exacerbates the sedative effect and increases the level of intoxication of both drugs.
Cocaine	Mood elevation, euphoria, increased energy, alertness, anxiety, irritability, insomnia, decreased appetite.	Potentially very dangerous because alcohol also elevates blood pressure, increasing risk for heart attack and stroke.
Hallucinogens	Altered perception of all senses, euphoria, anxiety, depersonalisation, increased body temperature, heart rate, blood pressure, loss of appetite, sleeplessness.	Unknown, may counteract anxiety.
Sedatives & Tranquilisers	Effects are similar to alcohol, but aggression is less likely. Lowered inhibitions, slowed pulse and breathing, lowered blood pressure, drowsiness.	Severe drowsiness, depressed heart and lung functions that can be fatal.
Antidepressants	Medication may become ineffective and lessen their benefit. The side effects from your medication could also worsen. Some antidepressants cause drowsiness, and so does alcohol. Mixing the two could make you sleepy, which is dangerous in situations where you need to be alert, such as driving, or at work.	Studies have proved that even social drinking may impair your ability to react quickly and remain alert while driving, even hours after consuming a single alcoholic drink. Severe drowsiness. A monoamine oxidase inhibitor (MAOI), can be very dangerous to mix with alcohol, and could cause a dangerous spike in blood pressure, leading to a stroke.
Opiates	Euphoria, constricted pupils, lowered blood pressure and heart rate.	Enhances sedative effect of both, increasing the risk of overdose.
Antibiotics	Nausea and abdominal pain are fairly common side effects.	Most antibiotics are less effective when taken with alcohol, may exacerbate nausea.
Antihistamines	Drowsiness, dry mouth.	Severe drowsiness.
Aspirin & Ibuprofen	Minor side effects include nausea, heartburn, nervousness.	Increases the risk for gastrointestinal bleeding.
Antidiabetic/Hypoglycemic	Drugs used to treat diabetes and hypoglycemia, such as insulin, combined with alcohol can cause severe and unpredictable reactions.	People taking these medications should avoid alcohol at all times.

Table 1 <http://oade.nd.edu/educate-yourself-alcohol/caution-alcohol-and-other-drugs-do-not-mix/>

Alcohol and high energy drinks

An “energy drink”, it is taken to mean a non-alcoholic drink that contains caffeine, taurine (an amino acid), guarana, and herbal supplements such as ginkgo and ginseng are the major components.³ Health risks associated with energy drinks are mainly related to their high caffeine content.⁴ Excessive consumption of energy drinks may cause caffeine intoxication, which can cause rapid heart rate, vomiting, cardiac arrhythmias, seizures, and in extreme cases, death.⁵

3 <http://www.ncbi.nlm.nih.gov/pubmed/17349826>

4 <http://www.nhs.uk/news/2014/10/October/Pages/Warnings-issued-over-energy-drink-risks.aspx>

5 <http://www.ncbi.nlm.nih.gov/pubmed/22426157>

Mixing alcohol with energy drinks can be a dangerous combination. Energy drinks can mask the effects of alcohol, and make you 'wide awake drunk', so you may underestimate how you're feeling and end up drinking more alcohol than you normally would.⁴ The combination has also been associated with increased risk-taking behaviours, harm to adolescent users, impaired driving, and increased use of other illicit substances.⁵

Mixing alcohol and energy drinks also means you consume more sugar, and caffeine than drinking alcohol by itself. This could also increase physical and psychological side effects, such as heart palpitations, problems sleeping, feeling tense or agitated and possibly cause anxiety and panic attacks.⁶ It is likely the risk of seizures is also higher with this combination.

What is moderate drinking?

The meaning of drinking alcohol in moderation can vary from person to person, as does the distinction between 'social' drinking and 'problem' drinking.

The National Health and Medical Research Council (NHMRC) suggests 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).⁷ This recommendation is for healthy individuals. Although most complications with seizures and alcohol generally occur with chronic or binge drinking, having a chronic health condition such as epilepsy can alter what is considered "safe" drinking.

Note: A standard drink is 250ml of full strength beer, or 100ml wine, or 30ml spirits. For a more comprehensive guide see: https://www.nhmrc.gov.au/files_nhmrc/file/your_health/healthy/alcohol/std-drinks.pdf

Why people with epilepsy need to be cautious about alcohol:

1. Alcohol can mix poorly with antiepileptic medications preventing them from reaching the necessary levels in the bloodstream to control seizures.
 2. Consuming large amounts of alcohol can trigger seizures.
 3. Alcohol can create an imbalance of fluid and electrolytes within the body causing dehydration.
 4. Alcohol consumption is often associated with late nights, sleep deprivation, missed meals and forgotten medications, all of which can trigger seizures.
 5. The effects of alcohol are enhanced when combined with antiepileptic medication, meaning you feel "drunk" faster.
- **If you are able to drink, track your drinking - use moderation only one to two drinks and drink slowly!**
 - **Avoid drinking large amounts of alcohol at once or over long periods of time.**
 - **If alcohol makes you feel unwell, or like you may have a seizure or you have had seizures in the past related to alcohol, it is best to avoid it altogether.**

Everyone should have at least two alcohol-free days a week.

For more information:

Alcohol and drugs <https://www.epilepsy.org.au/living-with-epilepsy/lifestyle-issues/alcohol-and-drugs>

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- Devinsky, O, Gordon, E. *Epilepsia* 2001 Oct;42(10): 1266-72. Alcohol and Marijuana: effects on epilepsy and use by patients with epilepsy
- www.nhmrc.gov.au

⁶ <https://www.drinkaware.co.uk/check-the-facts/health-effects-of-alcohol/effects-on-the-body/alcohol-energy-drinks>

⁷ <http://www.nhmrc.gov.au/health-topics/alcohol-guidelines>