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Wine Allergies and Intolerances



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[Basic Wine](#)

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Chances are that you or someone you know has experienced unpleasant and uncomfortable symptoms after consuming even small amounts of wine. Just like some people have allergies to pollen or pets, some individuals may experience **adverse reactions due to an allergy or intolerance to compounds present in the wine**. Symptoms include facial redness, a stuffy nose and even abdominal pain. Here is what you need to know about wine allergies and intolerances.

Intolerance vs Allergy

People often confuse alcohol intolerance and alcohol allergy, but they are not the same condition.

An allergy is an immune system response. The affected individual's immune system overreacts after exposure to a compound (allergen) present in an alcoholic beverage, and it typically creates a much more severe reaction compared to intolerances. For those who suffer from an alcohol allergy, even a **small amount of alcohol can be enough to trigger an adverse reaction**. However, it is more common for people to experience an alcohol intolerance rather than an allergy.

Alcohol intolerance is characterized by difficulties in digesting or metabolizing specific components found in wine. An intolerance does not involve the immune system and does not cause severe allergic reactions (known as anaphylaxis). An intolerance to a substance also does not show on allergy testing.

The **symptoms of mild to moderate wine allergy or intolerance may sometimes be similar**, but the hallmark symptom of alcohol intolerance is flushing of the skin (chest, neck, and face). Other symptoms include rashes, itchiness, and stomach pains. Allergy symptoms are often more severe and uncomfortable compared to intolerance symptoms and can include breathing difficulties. The alcohol-induced hypersensitivity reactions of the airways are usually significantly more frequent in people with rhinitis and asthma.

Usually, symptoms caused by an allergy develop very soon after consuming wine. While symptoms caused by an intolerance can be immediate, they may also take 12 to 24 hours to develop. Intolerance reactions are usually **related to the amount** of the substance consumed. Reactions may not occur until a certain amount (threshold level) of the substance is consumed, but this amount varies for each person.

What Causes Wine Allergy?

Certain components in a wine can potentially cause an allergic response. Potential organic and non-organic allergens in wine include

- Grape proteins
- Moulds and yeasts
- Proteins from insects (for example wasps) that contaminated the mash during grape processing.
- Fining agents used during winemaking (fish gelatine or isinglass, ovalbumin, casein, gum arabic)
- Enzymes (for example lysozyme)
- Ethanol and its metabolites, acetaldehyde and acetic acid
- Sulphites

A study¹ has shown that wine with high concentrations of some of the listed allergens (especially the fining agents) resulted in a **reaction during the skin prick test** in patients with the corresponding allergy. When the wine was filtered before consumption the wines were not problematic for the affected individuals. **Filtration could therefore assist with minimising the concentration of certain allergens present in the wines and the effect to the consumer.**

Even though **allergic reactions to ethanol, acetaldehyde, acetic acid and sulphites are possible, very few cases have been reported.** It seems that for these compounds, intolerance reactions (pseudoallergies) are more frequent.

What are the main triggers of intolerance?

The main causative agents of intolerance (pseudoallergic reactions) to wine include

- Ethanol and its metabolites, acetaldehyde and acetic acid
- Sulphites
- Fusel alcohol
- Tannins and flavonoids
- Histamine and other biogenic amines

Alcohol flush syndrome

Some people who drink alcohol experience an unpleasant phenomenon called the alcohol flush reaction. The syndrome is an **inherited genetic, metabolic disorder of the digestive system** caused by the **lack of aldehyde dehydrogenase (ALDH2)** in the body. This enzyme is **critical during ethanol metabolism** and therefore an individual with an alcohol intolerance cannot metabolize ethanol the

way they should. People of East Asian descent often have this alcohol intolerance; a characteristic symptom of this condition is facial flushing. While facial redness is a common side effect of moderate or heavy drinking, in the case of an individual suffering from alcohol flush syndrome, the reaction will cause **redness in the face after ingesting a small amount of alcohol**. Other symptoms of alcohol flush syndrome include a runny or stuffy nose, red, itchy skin bumps, nausea and vomiting, low blood pressure, the worsening of pre-existing asthma, diarrhoea and migraines. Certain individuals may also experience anaphylactoid reactions (frequently in the form of urticaria) in response to ethanol, acetaldehyde and acetic acid. **These are non-allergic hypersensitivity reactions.**

Individuals who take certain medications that alter alcohol metabolism can also experience the alcohol flush reaction. Such medications include those used to treat diabetes, infections, and high cholesterol. In addition, disulfiram, a medication used to treat alcohol use disorder, **alters alcohol metabolism so that acetaldehyde builds up when a person drinks alcohol**. This causes **unpleasant symptoms** such as flushing and nausea. The desire to avoid these unpleasant effects can encourage some people to refrain from drinking alcohol.

Sulphites

Particularly in white wine, **allergy-like intolerance reactions are caused by sulphites**. The most frequent intolerance reactions to sulphites usually occur after the ingestion of white wine with individuals suffering from asthma being especially sensitive. The so-called irritant receptors in the airways are stimulated by the sulphur dioxide generated in the stomach, which results in bronchoconstriction. **Real sulphite allergies are also possible, but rather rare^{2,3}.**

Polyphenols

Red wines contain high concentrations of polyphenols. In certain individuals, the consumption of polyphenols can result in the **inhibition of specific enzymes responsible for the detoxification of particular compounds**. These compounds can then pass from the bloodstream into the brain where they can cause a migraine. The hypersensitivity to tannins and/or flavonoids could be the reason for individuals experiencing **unpleasant reactions when consuming red wine**. White wines contain lower concentrations of phenolic compounds and sensitive individuals should experience very little if any reactions after the consumption thereof.

Biogenic amines

Biogenic amines (such as histamine) are formed during malolactic fermentation with elevated levels being particularly noticeable in cases of inadequate cellar hygiene or uncontrolled malolactic fermentation. Certain mildew-sensitive grape varieties can also **upregulate the content of biogenic amines** or their degradation products to protect themselves against plant pathogens. Intolerance reactions to histamine and other biogenic amines occur mainly after ingestion of **red wine and in persons with diamine oxidase deficiency**. Wines made according to the traditional Méthode Champenoise may contain higher concentrations of biogenic amines, while white and rosé wines usually contain lower amounts of histamine.

Is alcohol intolerance the same as being intoxicated?

Alcohol intolerance and alcohol intoxication are not the same thing. **The former is a physical reaction to alcohol exposure, while the latter is due to consuming too much alcohol.** The symptoms of alcohol intolerance can occur even after consuming small amounts of alcohol. The symptoms may not be like typical drunkenness, however, the inability to properly break down alcohol leads to higher blood alcohol levels.

How to prevent alcohol intolerance

Unfortunately, there are **no effective treatments** to avoid or lessen the symptoms of alcohol intolerance. The best way to prevent alcohol intolerance is to limit or avoid alcohol consumption.

When to see a doctor

A mild alcohol intolerance will not require a trip to the doctor. **Its symptoms are usually minimal and will go away when the consumption of alcohol ceases.** If you experience severe symptoms, seek emergency medical attention immediately. These symptoms may indicate a serious health condition requiring immediate treatment.

Diagnosis and treatment

A true allergy requires diagnosis using the **same methods as food and environmental allergies**. To evaluate for an allergy, your healthcare provider may perform a physical exam, order a skin prick test (to determine if you are allergic to any specific ingredients found in the wine) and order blood tests. For certain intolerances, genetic tests can provide answers.

References⁴

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