



23 December 2025

IBD and Alcohol



This report was created using insights gathered through DIVA – Data Insights for Added therapeutic Value, IFCCA's innovative tool that helps us scan, analyse, and translate complex scientific literature into accessible knowledge.

With DIVA, we aim to share regular evidence-based summaries that highlight the often-overlooked aspects of living with IBD – from mental health and quality of life to socioeconomic disparities – supporting patients, healthcare professionals, and policymakers with actionable insights.

IBD and Alcohol:

A review of current scientific evidence

IFCCA, realised through DIVA (Data Insights for Added Therapeutic Value)



Disclaimer

This article provides a general overview based on recent scientific studies, but does not constitute a systematic review. The information presented should not replace medical advice. Recommendations regarding alcohol consumption should be individualised and discussed with your healthcare team.

Introduction

The relationship between alcohol consumption and Inflammatory Bowel Disease (IBD) is complex. Scientific evidence helps us better understand how alcohol can affect disease activity, worsen symptoms, and interact with medications. As the global incidence of both ulcerative colitis (UC) and Crohn's disease (CD) continues to rise, particularly in regions where these conditions were previously uncommon, such as Asia, Africa, and Latin America, the role of modifiable environmental factors like alcohol has become increasingly important (White et al., 2022).

Alcohol consumption among IBD patients appears to mirror that of the general population, yet paradoxically alcohol is the most-avoided dietary item by this patient group (Piovezani & Kane, 2021). This contradiction reflects the uncertainty surrounding alcohol's true impact on IBD. One important finding is that alcohol's effect is not the same for everyone: individual sensitivity, rather than the amount consumed, seems to determine whether symptoms appear. Some people tolerate occasional consumption without problems, while others experience significant worsening.

How does alcohol affect the gut?

Alcohol can affect the gut in several ways. It damages the gut's protective barrier (the layer of cells that prevents harmful substances from entering the bloodstream), increases intestinal permeability (meaning the gut "lets through" things it shouldn't), and triggers an inflammatory response in the body. All of this can worsen IBD symptoms (White et al., 2022; Cannon et al., 2018). Additionally, alcohol alters the gut microbiota (the bacteria living in our intestines) and can inappropriately activate the immune system, which could trigger or worsen flares.

Disruption of gut microbiota. People with alcohol use disorder have been found to have gut microbiota similar to that of IBD patients, suggesting that alcohol promotes the growth of bacteria associated with IBD (White et al., 2022). These changes can allow harmful bacteria—such as *Clostridioides difficile*—to establish themselves in the gut. Interestingly, studies in germ-free animals have shown that these animals do not develop the typical inflammatory response after consuming alcohol, confirming that the microbiota plays a key role in alcohol's inflammatory effects.



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Damage to the intestinal barrier. Alcohol directly damages the gut's protective barrier. This damage impairs nutrient absorption, causes diarrhoea, and increases intestinal permeability—a mechanism already known to be involved in IBD development. When the gut becomes more permeable, substances like bacterial toxins can enter the bloodstream, activating inflammatory mediators such as TNF- α , IL-1, and IL-6 (White et al., 2022). A study examining the effect of moderate red wine consumption (2-3 glasses daily) in IBD patients confirmed that wine increased intestinal permeability, particularly in areas already damaged by inflammation—as if it were a "second hit" on weakened tissue.

The role of sulfites and sugar. Sulfites (preservatives added to many alcoholic drinks, especially wines and beers) are one of the dietary factors with the strongest evidence of causing problems in IBD. The hydrogen sulfide they generate can increase gut permeability and cause changes similar to those seen in ulcerative colitis (White et al., 2022). Sugar also appears to play an important role. A Danish study found no relationship between abdominal pain and blood alcohol levels in Crohn's patients, but did find a direct relationship between abdominal pain and blood glucose levels after consuming high-sugar alcoholic drinks. The researchers concluded that sugar content, rather than alcohol itself, has a stronger association with digestive symptoms in IBD patients.

Does it affect Crohn's disease and ulcerative colitis equally?

Before continuing, it's important to understand how risk is measured in scientific studies. Researchers use measures such as Odds Ratio (OR) or Hazard Ratio (HR). In both cases: a value of 1 means no difference in risk; a value less than 1 indicates lower risk (for example, OR 0.88 means approximately 12% lower risk); and a value greater than 1 indicates higher risk (for example, HR 3.17 means approximately 3 times higher risk).



"Alcohol's impact on IBD is not the same for everyone: individual sensitivity matters more than the amount consumed."

A retrospective study conducted in Taiwan with more than 280,000 people found that alcohol intoxication significantly increased the risk of developing IBD: people hospitalised for alcohol-related problems had 3 times higher risk (HR 3.17) than the control group (Hsu et al., 2016). Notably, the risk was higher for Crohn's disease (HR 4.40) than for ulcerative colitis (HR 2.33). Furthermore, the more severe the intoxication, the greater the risk.

However, other studies have not found this relationship. A large prospective study with 237,835 participants found no association between overall alcohol consumption and the development of CD or UC (Casey et al., 2022). This is consistent with data from a European study (EPIC) that also found no relationship (Bergmann et al., 2017). However, Casey et al. did find differences depending on the type of drink: moderate beer consumption (1-4 servings/week) was associated with a slight reduction in Crohn's risk, while high liquor consumption (more than 4 servings/week) was associated with a higher risk of ulcerative colitis.

Does the type of alcoholic drink matter?

A large UK Biobank study with more than 500,000 people analysed how different types of alcoholic drinks affect IBD (Liu et al., 2022). The results showed important differences. **Red wine** consumers had between 12% and 16% lower risk of IBD (OR 0.84-0.88), regardless of the amount consumed.



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“Alcohol damages the intestinal barrier, increases gut permeability, and can trigger inflammatory responses already involved in IBD.”

White wine and champagne consumption was associated with 12% higher risk at low doses (OR 1.12), increasing to 32% at high doses (OR 1.32). **Spirits and liquors** at low - frequency consumption were associated with 28% higher risk (OR 1.28). **Beer and cider** at high doses were associated with 26% higher risk (OR 1.26).

The potential protective effect of red wine may be related to its phenolic compounds. A small study found that drinking 1-3 glasses of red wine daily for one week was associated with a reduction in faecal calprotectin (a marker of intestinal inflammation), possibly due to resveratrol's anti-inflammatory effects (White et al., 2022). However, these findings are controversial. A recent review cautions that even moderate wine consumption can cause discomfort in IBD patients, and recommends individual assessment with a doctor (Restani et al., 2025). Furthermore, although red wine may have some beneficial effects, it also increases intestinal permeability, which in the long term could worsen inflammation.

Do age, sex, or genetic factors matter?

Data from the Swiss IBD Cohort Study showed that heavy drinkers among IBD patients tended to be retired, married smokers receiving mostly aminosalicylates and less immunosuppression (Martinho-Grueber et al., 2023). Heavy alcohol consumption was most common in male smokers over 50 years of age. In ulcerative colitis patients,

low-to-moderate drinking was associated with less extensive disease. Recent genetic research has identified shared genes between alcohol metabolism and IBD susceptibility. Chromosome 16 appears to be a key region, with nine genes showing a genetic relationship with both factors (Huang & Yuan, 2025). The genetic correlation was stronger with Crohn's disease than with ulcerative colitis, opening new avenues for personalised prevention strategies.

Interactions with medications

Interactions between alcohol and IBD medications are an important concern. Alcohol is processed mainly in the liver through cytochrome P450 enzymes. In regular drinkers, the activity of these enzymes can increase up to 10-fold, meaning alcohol "competes" with medications to be processed when present, but when absent, medications are eliminated faster than normal. Both situations can affect treatment effectiveness (White et al., 2022; Piovezani & Kane, 2021).

Antibiotics: Mixing alcohol with metronidazole or certain cephalosporins like ceftriaxone can cause a "disulfiram-like reaction": facial flushing, nausea, vomiting, and headache. **Mesalamine:** Alcohol can interfere with the special coatings that control drug release, potentially reducing effectiveness. **Methotrexate:** Both can damage the liver; heavy drinking (>10 drinks/week) increases risk of liver fibrosis, though occasional consumption (≤3 drinks/week) showed no clear association with liver damage. **Azathioprine:** Both can deplete liver glutathione; binge drinking while on this medication increases vulnerability to liver damage. **Cyclosporine:** Alcohol can reduce blood levels of the medication. **Biologics:** Limited evidence exists, but regular drinkers who experienced drug-induced liver injury tended to have more severe injuries.



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“Alcohol intoxication has been associated with a higher risk of developing IBD, particularly Crohn’s disease.”

Practical recommendations

Although prospective studies do not conclusively prove that moderate consumption increases the risk of developing IBD, most evidence suggests that alcohol worsens symptoms, increases relapse risk, and interferes with medication effectiveness. It is recommended to avoid alcohol during active flares.

Tips for social situations: alternate alcoholic drinks with water; if you’re going to drink, consider red wine as a potentially less harmful option (though with caution); avoid drinks with high sugar content; and pay attention to how your body responds.

By medication: avoid alcohol completely with metronidazole or certain cephalosporins; limit to maximum 3 drinks/week with methotrexate; avoid binge drinking with azathioprine.

Conclusion

Alcohol consumption presents a complex challenge in IBD management. Although it doesn’t appear to significantly increase the risk of developing CD or UC at moderate levels, it does worsen symptoms, increase relapse risk, and complicate treatment effectiveness. The type of drink matters: red wine might offer some protection while spirits and high doses of beer appear more harmful, though individual responses vary considerably. It’s also important to remember that other components—especially sulfites and sugar—may be more responsible for digestive symptoms than the alcohol itself. Ultimately, each patient should work with their doctor to find a balance between social considerations and the possible negative impact on their disease. While research advances, prudence and moderation remain the best guides.

AI-generated report based on current scientific evidence. (Model: mistral-medium-latest)

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