

Drinking apple cider vinegar may help with weight loss but its health benefits are overstated

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Each morning at breakfast, my partner gives me orange juice that tastes more sour than expected. One day, she explained that she adds apple

cider vinegar to improve my health.

As a former primary schoolteacher she swears by the stuff. She tells me she kept [apple cider vinegar](#) in the staff room so that when children became ill with diarrhea and vomiting, she could take it immediately to protect her from the illness.

I was skeptical about yet another immune-boosting miracle ingredient. Apple cider vinegar is a natural product made of fermented apple juice that has gone sour. Apparently, the best stuff is cloudy and has sediment, known as the "mother", because it is relatively unfiltered—this is where the good bacteria lives. Without the mother, there's unlikely to be much benefit to taking apple cider vinegar.

But is there any real benefit in the first place? I decided to turn medical sleuth and investigate whether apple cider vinegar is as good for health as it sounds. There isn't as much scientific evidence to support its popularity as a health tonic as some influencers might like to think.

Claim: disinfectant properties

Vinegar has a long history as a [surface decontaminant](#) and perhaps this is why salad dressings contain vinegar—as well as adding flavor, it may kill micro-organisms on raw vegetables.

But does apple cider vinegar's decontaminant qualities translate to the human gut? Our stomachs produce acid, which acts as a natural barrier to infection, so how can adding more acid help?

Research suggests that apple cider vinegar [delays stomach emptying](#) so perhaps increased time in contact with stomach acid might account for the claimed protective effect against enteric infections.

Claim: weight loss and management of type 2 diabetes

There are plenty of anecdotal claims that apple cider vinegar can aid [weight loss](#), supported by limited evidence from several small studies. A [randomized controlled trial](#) published in early 2024 showed significant reductions in weight and waist size of 120 overweight and obese young people. There were also reductions in serum triglycerides—[blood fats](#) that can raise the risk of heart disease if levels are too high—and cholesterol over the three-month follow-up period.

[A systematic review](#) from 2020, however, found evidence of only marginal benefits citing "insufficient evidence". Another subsequent [systematic review](#) from 2021—looking at dietary supplementation with acetic acid from all vinegar types—found evidence of [significant reductions in fasting blood glucose](#), particularly in individuals with type 2 diabetes. The study also showed benefits in reducing serum triglycerides and cholesterol.

So how might these effects work? Apple cider vinegar is thought to cause weight loss through its effect on [delay of gastric emptying](#). This increases a sense of fullness and reduces appetite. Reduced calorific intake will lead to weight loss—but how are the metabolic effects on blood glucose and lipids mediated?

Blood glucose levels are controlled by the pancreatic hormone insulin. In type 2 diabetes there is a reduction in sensitivity to insulin which in turn leads to a reduced uptake of glucose by cells. There is some evidence that apple cider vinegar—and other sources of [acetic acid](#)—[improves insulin sensitivity](#) so it's possible that there are some benefits for those with this condition. Since high blood glucose levels are associated with high serum lipid levels, the associated reduction in [blood glucose](#) levels caused by improved [insulin sensitivity](#) should improve in blood lipid profiles as demonstrated [in literature reviews](#).

Claim: reduces risk of heart disease

Raised blood lipids are [a risk factor](#) for cardiovascular diseases such as myocardial infarction and stroke. Can apple cider vinegar consumption reduce their incidence? Well, I'm afraid there's no scientific evidence that vinegar consumption of any kind reduces cardiovascular morbidity and mortality in those with or without diabetes. For those without diabetes, the benefits of vinegar consumption on blood lipid levels are less clear, as suggested in [this study from 2013](#).

Claim: cancer treatment and prevention

One of the more outrageous claims of benefits of daily apple cider vinegar consumption is that [it may prevent or treat cancer](#). A frequently quoted [case-control study from China](#) found that an increased consumption of vinegar was associated with a reduced incidence of oesophageal cancer. What some popular internet sources who cite this study don't say is that eating beans and vegetables was also found to be protective, as well as was eating a diet with a normal salt intake and drinking water from a tap. There are always multiple confounding factors when claims are made concerning cancer and we must always be on our critical guard.

Should I continue to take my apple cider vinegar adulterated orange juice each morning? The evidence suggests that it will help with my waistline and my weight so I'll put up with the sour taste for a while longer.

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