

The truth about detoxes

A liver specialist explains why most detoxes are unnecessary, which popular supplements can be harmful, and how to truly support your liver.

BY TRISH LALOR

Every January, the same promises appear: juice cleanses, detox teas, charcoal capsules, and liver "resets." The message is familiar: you overindulged during the holidays, your body is full of toxins, and you need a product to flush them out.

Here is the inconvenient truth: your body already has a detox system. It is called the liver, supported by your kidneys and gut, and it has been working hard every day of your life.

I am a liver researcher. I study how this organ works, how it gets damaged, and how it repairs itself. If you are wondering whether you need a detox, the honest answer is: most healthy people do not. In fact, some popular detox trends can actually be harmful.

When people talk about detoxing, they usually mean removing harmful substances from the body. That is a real biological process, but it is not something you can switch on with a tea, a supplement, or a three-day cleanse. Detoxification happens continuously. The liver neutralises chemicals and breaks them down into forms the body can safely use or remove, with waste leaving mainly through urine and faeces. This process is well understood and studied in human physiology and toxicology.

If you are generally healthy and not repeatedly overwhelming your system, you do not need a "reset." What the liver needs most is time and consistency: fewer repeated insults and enough recovery time to repair itself between them.

Alcohol: the liver can cope, until it can't

Alcohol is a useful example of how detoxification works because everything you drink is processed directly by the liver. After drinking, alcohol is absorbed through the gut and carried in the bloodstream to the liver. Liver cells, called hepatocytes, break alcohol down in stages. One intermediate product, acetaldehyde, is toxic and contributes to hangovers before being further broken down into acetate, which the body can safely use or eliminate.

Problems arise with binge drinking or heavy, sustained drinking. In these cases, the liver relies more heavily on alternative processing pathways that produce higher amounts of acetaldehyde and increase oxidative stress. This means toxic by-products

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are created faster than they can be cleared. Over time, this damages liver cells, triggers inflammation, and leads to fibrosis, scarring of the liver. If scarring becomes extensive, it can progress to cirrhosis, severely disrupting liver function and increasing the risk of liver failure and liver cancer.

This is why how you drink matters, not just how much. Spacing drinks out keeps blood alcohol levels lower and gives your liver a better chance to keep up with detoxification.

Liver 'cleanses' and supplements

When people swap alcohol and ultra-processed foods for liquids made from fruits, vegetables, and herbs for a few days, they often feel better. That does not mean toxins have been pulled from the liver.

More often, it reflects lower calorie intake, fewer additives, increased fluid consumption, and sometimes more fibre.

Short, sensible "cleanses" are unlikely to harm most healthy adults, but risks increase with very low-calorie regimens, poorly regulated herbal ingredients, or repeated long-term use. Many detox products are sold as supplements rather than medicines, which means quality, dose, and purity can vary widely. High doses or prolonged use increase the chance of side effects.

Some supplements have evidence in specific medical settings. For instance, vitamins D and E have been studied in certain liver diseases, and antioxidants like N-acetylcysteine are used medically in cases of acute liver injury. These are targeted treatments used under medical guidance, not general detox tools, and they do not offset ongoing harmful behaviour.

High-dose "natural" detox supplements, in-

cluding green tea extract, can cause liver inflammation, reflected in elevated liver enzymes. In severe cases, supplement-induced liver injury can progress to liver failure, requiring a transplant.

Milk thistle and turmeric

Milk thistle and turmeric contain compounds with antioxidant and anti-inflammatory properties, and some studies suggest they may help in certain liver conditions. Milk thistle has been studied in alcohol-related liver disease and non-alcoholic fatty liver disease, but the results are mixed and not strong enough to recommend routine use.

The main concerns with these supplements are dosing, formulation, and study quality. Turmeric in food is poorly absorbed, so supplements often use concentrated extracts to improve absorption. At that point, a kitchen spice becomes a pharmacological dose, increasing the risk of side effects and interactions. In fact, turmeric supplements have been linked to cases of acute liver injury. In the United Kingdom, health authorities have warned about the potential risks of turmeric and curcumin supplements. "Natural" does not automatically mean safe.

Activated charcoal and coffee enemas

Activated charcoal binds substances, which is why it is used in hospitals for certain poisonings. It is non-specific, however, and can interfere with the absorption of medications. Charcoal supplements are not a safe or reliable way to remove toxins.

Coffee, when consumed normally, may even protect the liver. But coffee enemas, putting coffee into the colon, can be dangerous. They can cause burns, infections, dangerous imbalances in salts, and even bowel perforation. If you want coffee's liver benefits, drink it.

THE REAL WAY TO SUPPORT YOUR LIVER

A woman drinks detox juice. However, experts say, the liver detoxifies your body every day without a cleanse, a tea, or a reset.

For most healthy people, the best liver support is simple and unglamorous: keep alcohol within recommended limits, avoid binge drinking, eat a diet rich in fibre, fruits, and vegetables, stay hydrated, and give your liver regular rest days from alcohol.

The liver is an extraordinary organ. It detoxifies your body every day without a cleanse, a tea, or a reset. If you want to support it, focus less on dramatic short-term detox routines and more on reducing repeated strain over time. Consistency beats gimmicks.

And whatever you do this January, do not put coffee where it does not belong.