

## Hypothesis of Detoxification and Its Types

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### DESCRIPTION

A series of procedures known as detoxification are used to treat acute intoxication and withdrawal. It indicates a removal of toxins from the patient's body who is very drunk and dependant on illicit drugs. The goal of detoxification is to lessen the bodily harm brought on by drug usage. The physiological or therapeutic elimination of poisonous compounds from a living entity, by including the human body is known as detoxification or detoxication (detox for short). The liver is primarily responsible for this process. Additionally, it can be used to describe the time during drug withdrawal when an organism regains equilibrium following a prolonged usage of an addictive chemical [1]. In medicine, decontamination of toxin ingestion, the use of antidotes, as well as procedures like dialysis and (in a small number of cases) chelation therapy can all be used to achieve detoxification.

Numerous practitioners of alternative medicine advocate various forms of detoxification, including detoxification diets. Natural detoxification mechanisms include the liver, kidney, and intracellular proteins like CYP enzymes that are found in the endoplasmic reticulum or the inner membrane of mitochondria [2]. Dialysis is used to replicate the kidneys' function in renal failure situations; kidney and liver transplants are also used to treat kidney and liver failure, respectively. There are four types of Detoxification are such as Alcohol detoxification, Drug detoxification, metabolic detoxification etc. Alcohol detoxification is a heavy drinker's system is returned to normal through the process of alcohol detoxification after being accustomed to having alcohol in their bodies continuously for a long period of substance misuse. GABA neurotransmitter receptors are downregulated in severe alcohol addiction. Without medical supervision, a long-term alcohol addiction's precipitous withdrawal can be lethal and create serious health issues [3]. Detoxing from alcohol is not an alcoholic treatment. After detoxification, additional therapies are needed to address the underlying addiction that led to alcohol usage.

Drug detoxification does not seek to treat addiction but rather serves as the first stage in long-term treatment. Clinicians utilise drug detoxification to lessen or ease withdrawal symptoms while

assisting an addicted person to acclimatise to life without using drugs. Drug-free detoxification is possible, but it's also possible to utilise pharmaceuticals as part of the process. Rather than in a hospital setting, drug detoxification and treatment frequently take place in a community programme that lasts several months and is housed in a residential area. Depending on the place of treatment, drug detoxification differs; nonetheless, most detox facilities offer treatment to prevent the physical withdrawal symptoms from alcohol and other substances [4].

To cope with the effects of withdrawal, the majority of detox programmes also include counselling and therapy. Metabolic detoxification is an animal's metabolism can result in the production of poisonous compounds, which it can then reduce in toxicity by redox reactions such reduction, oxidation, conjugation, and excretion of molecules from cells or tissues. The term for this is xenobiotic metabolism. Cytochrome P450 oxidases, UDP-glucuronosyltransferases, and glutathione S-transferases are some of the crucial enzymes in detoxification metabolism [5]. Due to the fact that they affect the pharmacokinetics of a medication in the body, these mechanisms are particularly well-studied as part of drug metabolism.

### CONCLUSION

Scientific research has confirmed the importance of detoxification enzymes in procedures related to the metabolism of harmful chemicals. These enzymes' abilities to function can have an impact on medication resistance as well as illness susceptibility. The process of detoxification helps your body get rid of different contaminants. Among many other health advantages, it helps to enhance the immune system, rejuvenate skin, and improve mental wellness. Restoring harmony to your life through detoxification also supports healthy system operation.

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