



**Title** Artificial Liver Support Systems  
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## Aim

To describe the artificial support systems and evaluation of their efficacy and safety in patients with acute and acute on chronic liver failure.

## Conclusions and results

After screening 436 references, we selected 10 control trials, of which 7 evaluated complete detoxification treatment. Eight included acute chronic liver patients and 2 included acute liver failure cases. MARS, Prometheus, and Biologic-DT interventions were analyzed. Efficacy was proven by a reduction in bilirubin, creatinine, and other toxic components after intervention compared to control. Clinical efficacy was measured in fewer studies, some showing an improvement in hepatic encephalopathy and survival. A few studies assessed intervention safety, based on adverse events, mainly coagulation disorders.

## Recommendations

Reviewed evidence showed extracorporeal albumin dialysis-based systems were able to reduce toxic parameters in blood and improve clinical results. However, more studies are needed to further evaluate mortality and adverse events based on standardized notification. Two multicenter studies are currently in progress and aim to provide evidence on the safety and efficacy of these systems.

## Methods

Trials were identified through electronic searches of the following databases: MEDLINE, The Cochrane Library Plus, EMBASE, and ISI Web of Knowledge. The articles with the most evidence, and which had been published in the last 10 years, were selected.