

# New treatment algorithm can predict benefit of treatment in end-stage liver disease

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A new algorithm designed to help physician decision-making in End-Stage Liver Disease (ESLD), was able to accurately predict death in 96% of patients with ESLD.

The algorithm, presented at The International Liver Congress in Barcelona, Spain, is based on a combination of pre-morbid liver function and Acute-on-Chronic Liver Failure (ACLF) grade, and allows physicians to help determine [patients](#) who were likely to benefit from intensive care unit (ICU) [treatment](#) compared with those who would not.

ACLF is a relatively common syndrome and occurs in 31% of hospitalised patients with cirrhosis who have an acute complication of their [liver disease](#).<sup>1</sup> In these patients, ACLF is the most common cause of death.<sup>1</sup> ACLF is distinct from severe liver damage (decompensated cirrhosis) as organ failure and mortality rates are high.<sup>1</sup> Furthermore, patients with ALCF tend to be younger, have more scarring of the liver as a result of alcohol, and have less liver scarring as a result of Hepatitis C virus, compared to those with decompensated cirrhosis.<sup>2</sup>

"When patients are very ill, physicians must ensure that our concern for the patient should not result in the recommendation of treatment that will be of no benefit," said Dr Katrine Lindvig, Department of Gastroenterology and Hepatology, Odense University Hospital, Odense, Denmark and lead study author. "We now have well validated data that allows us to more accurately predict who is likely to benefit from treatment compared with previous measures."

Researchers collected data on 354 patients hospitalised with cirrhosis from centres in Belgium, Austria and Denmark. The [new algorithm](#), based on commonly used scales to assess disease severity including Child-Pugh Score, Model for End-Stage Liver Disease (MELD) and the CLIF-SOFA-score, separated patients into two groups: those likely to benefit and survive ICU and those who were unlikely to benefit or survive intensive care therapy if needed.

The algorithm correctly predicted outcomes in 96% of cases and an odds ratio (a measure of association) for death of 4.7 (2.50-9.05 95% confidence interval).

"If the first duty of a physician is to do no harm, then we must continually review our decision-making tools and favour those that have the highest predictive value of treatment success and - importantly - treatment failure. This study adds to our knowledge of existing, well-recognised scoring systems, and provides an interesting approach for review and wider discussion by the [liver](#) community," said Professor Tom Hemming Karlsen, EASL Vice-Secretary.

**More information:** References:

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