

Liver cancer patients less likely to die on wait list than candidates without carcinomas

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New research shows increasing disparity in mortality among candidates with and without hepatocellular carcinoma (HCC) who are on the waiting list for liver transplantation. The study available in the April issue of *Liver Transplantation*, a journal published by Wiley-Blackwell on behalf of the American Association for the Study of Liver Diseases, found that liver cancer patients are less likely to die on the wait list than non-HCC candidates, prompting transplantation specialists to suggest a reevaluation of current allotment criteria for those with HCC.

In 2002, the United Network for Organ Sharing (UNOS) implemented the Model for End Stage [Liver Disease](#) (MELD) [scoring system](#) to prioritize candidates on the waiting list for [liver](#) transplantation in the U.S. While MELD accurately predicts 90-day waitlist mortality, there are some candidates with extensive disease symptoms, such as those with HCC, who need additional prioritizing criteria to assess clinical risk. These candidates receive MELD exception points, of which HCC patients on the wait list could gain 22 points based on increased [mortality risk](#), meaning HCC patients may be transplanted before other patients at greater risk of death.

"With the scarcity of available livers for transplantation, it is vital that allocation criteria ensure those candidates at greatest mortality risk are first to receive a life-saving organ," said Dr. David Goldberg with the University of Pennsylvania and lead author of the current study. "Our study investigated appropriate designation of exception points for [transplant candidates](#) with HCC, comparing mortality risk to those with

similar MELD scores, but without [liver cancer](#)."

The team analyzed data from the Organ Procurement and Transplantation Network (OPTN) UNOS database, including candidates eighteen years of age and older who were on the waiting list for liver transplantation between January 2005 and May 2009. The HCC group was comprised of 6,246 candidates who received exception points for stage two (T2) liver cancer. These candidates were more likely to be older, male and Caucasian or Asian compared to those without liver cancer. In the non-HCC cohort, candidates were categorized by MELD score with 2,564 candidates with a score of 21-23; 4,655 with 24-26; and 2,737 with MELD 27-29.

Analysis shows that within 90 days of listing 4.2% of HCC candidates were removed from the wait list for death or clinical deterioration compared to 11% of non-HCC candidates with MELD scores 21-23. For HCC candidates with 25 exception points (3-6 months wait-time) versus non-HCC candidates with MELD scores 24-26, close to 5% and 17% were removed from the [waiting list](#), respectively. Of the HCC candidates with 28 exception points (6-9 months wait-time) 3% were removed for death or clinical deterioration compared to 24% of non-HCC candidates with MELD scores of 27-29.

Researchers determined that over time the risk of waitlist mortality or clinical decline was unchanged for HCC candidates, but increased significantly for non-HCC candidates. Dr. Goldberg concludes, "Our data suggest HCC candidates have substantially lower odds of waitlist removal for death or deterioration than non-HCC candidates, and strongly indicates that exception points currently allotted for HCC should be lowered."

In a related editorial also published this month in [Liver Transplantation](#), Dr. Patrick Northup from the University of Virginia agrees and writes,

"The Goldberg et al. study adds strength to the argument that the 'sickest first' policy may not be well served by the current allocation methods for HCC under the MELD system." He proposes that the transplantation community strive to develop a more fluid allocation system that is responsive to new medical evidence. "The allocation system should be managed as a whole, rather than as isolated pieces, to ensure patients on the waitlist are prioritized based on the desire to minimize waitlist mortality."

More information: "Increasing Disparity in Waitlist Mortality Rates with Increased MELD Scores for Candidates with versus without Hepatocellular Carcinoma." David Goldberg, Benjamin French, Peter Abt, Sandy Feng, Andrew M. Cameron. Liver Transplantation; ([DOI: 10.1002/lt.23394](https://doi.org/10.1002/lt.23394)) Published online: January 23, 2012; Print Issue Date: April 2012.

Editorial: "HCC and MELD Exceptions: The More We Understand, The More Challenging the Allocation Gets." Patrick G. Northup and Carl L. Berg. Liver Transplantation; ([DOI: 10.1002/lt.23409](https://doi.org/10.1002/lt.23409)) Published online: Februar 10, 2012; Print Issue Date: April 2012.

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