

Kidney failure risk higher for liver transplant patients following policy change

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Research from the University of Michigan Health System shows the risk for kidney failure among liver transplant recipients is higher following the implementation of Model of End Stage Liver Disease (MELD), a policy change in 2002 that altered how liver transplant allocation is decided.

The study, led by Pratima Sharma, M.D., M.S., an assistant professor in the Department of Internal Medicine, examined the effect of MELD score-based allocation on post-liver transplant kidney failure. MELD, which was introduced in 2002, is a scoring system that evaluates liver [disease severity](#) and has since become the basis for deciding which patients receive liver transplants.

The researchers found that the risk of developing post-transplant kidney failure among liver transplant recipients has increased by 15 percent in the MELD era compared to pre-MELD era. The findings were featured in the November 2011 issue of the [American Journal of Transplantation](#).

"We're not aware of any prior study that has evaluated the impact of MELD-based liver allocation on the risk of new-onset post-transplant kidney failure," says Sharma. "These findings identify risk factors that could help prevent new-onset end stage renal failure in liver-transplant recipients."

The researchers previously found that the MELD score excessively weighs the presence of serum creatinine in deciding which patients

receive liver transplants. Higher levels of [serum creatinine](#) are a sign of renal dysfunction.

When MELD was implemented, more patients with pre-transplant kidney dysfunction began receiving liver transplants. The incidence of simultaneous liver and [kidney transplant](#) has also increased significantly in the MELD era.

Researchers say that along with the increasing incidence of post-transplant kidney failure, [chronic kidney disease](#) could also be on the rise, affecting health care costs in the future.

"The higher incidence of post-transplant kidney failure may represent the tip of the iceberg," Sharma says. "Patients with chronic kidney disease could develop kidney failure in the future, which may add to already skyrocketing healthcare costs in terms of additional dialysis cases and increased hospitalization."

The findings also highlight several modifiable risk factors that could be addressed before, during or after [liver transplant](#) and help prevent post-transplant kidney failure.

The researchers found that along with African American race, hepatitis C, pre-liver-transplant diabetes, higher creatinine, lower albumin, low bilirubin and high sodium were significant predictors of post-liver transplant kidney failure.

"Modification of some of these risks that would improve renal function may help prevent or delay post-liver transplant [kidney failure](#)," Sharma says.

More information: "Impact of MELD-Based Allocation on End-Stage Renal Disease After Liver Transplantation." *American Journal of*

Transplantation, [DOI: 10.1111/j.1600-6143.2011.03703.x](https://doi.org/10.1111/j.1600-6143.2011.03703.x) ; Nov. 1, 2011.

Provided by University of Michigan Health System

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