

# Live donor liver transplantation found safe and effective for acute liver failure

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When patients develop acute liver failure, severe complications arise rapidly after the first signs of liver disease, and patients' health can deteriorate rapidly. New research published in the *American Journal of Transplantation* indicates that emergency evaluations of living liver donors can be conducted safely to allow acute liver failure patients to undergo transplantation before their condition worsens.

If untreated, [acute liver failure](#) results in coma and death in more than 80 percent of cases. The only effective therapy is liver transplantation, but the deceased donor supply of livers is often not timely enough. Live donor liver transplantation (LDLT) is an attractive option to overcome this problem, but studies haven't looked at the safety of the procedure for acute [liver failure patients](#) or donors who may have to have last-minute examinations to determine their compatibility. Also, experts worry that individuals perhaps should not be allowed to make donor-related decisions when faced with the death of a loved one, although denying someone the opportunity to save a loved one's life is sub-optimal as well.

Markus Selzner, MD, of the Multi-Organ Transplant Program at Toronto General Hospital, and his colleagues now report on their hospital's experience using LDLT for treating adult patients suffering from acute liver failure. From 2006 to 2013, all seven patients with acute liver failure who underwent a LDLT were compared with all 26 patients who underwent a deceased [donor liver transplantation](#) (DDLTL). For LDLT, liver transplantation was performed within 18 to 72 hours after living

donor evaluation was initiated.

LDLT versus DDLT had similar incidences of overall postoperative complications (31% versus 43%), and no differences were detected between LDLT and DDLT patients regarding 1-, 3-, and 5-year liver and patient survival rates. No severe donor complications occurred after LDLT.

"Since acute liver failure can deteriorate within hours or days to coma or death, waiting time is critical for this patient group," said Dr. Selzner. "If a living [donor](#) is available, [liver transplantation](#) can be performed without delay, reducing the risk of death or permanent disability of the recipient."

In an accompanying editorial, Jean Emond, MD, of Columbia University in New York City, and Charles Rosen, MD, of the Mayo Clinic in Rochester, Minnesota, congratulate the researchers for their pioneering work. They noted, however, that "further experience is necessary to demonstrate that urgent evaluations can be done safely, accurately, and with avoidance of coercion and undue stress on potential donors and their families."

**More information:** "Live donor liver transplantation: A valid alternative for critically ill patients suffering from acute liver failure." Nicolas Goldaracena, Vincent N. Spetzler, Max Marquez, Nazia Selzner, Mark S. Cattral, Paul D. Greig, Les Lilly, Ian D. McGilvray, Gary A. Levy, Anand Ghanekar, Eberhard L. Renner, David R. Grant, and Markus Selzner. *American Journal of Transplantation*; Published Online: March 19, 2015. [DOI: 10.1111/ajt.13203](https://doi.org/10.1111/ajt.13203)

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