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## Liver Transplants Succeed Without Blood Transfusions

Jehovah's Witnesses refuse blood transfusions. This does not prevent them from contracting hepatitis C or other diseases that necessitate liver transplants. Surgeons have developed techniques--such as withdrawing up to 1,500 milliliters of the patient's own blood for reinfusion during the surgery--to deal with these religious strictures. And a new study of liver transplant patients seems to show that avoiding donated transfusions might be good for both blood banks and patients with no religious objections.

Nicolas Jabbour of the INTEGRIS Baptist Medical Center in Oklahoma City and his colleagues reviewed the outcomes of 272 liver transplant patients--who were neither children nor Jehovah's Witnesses--who underwent surgery between January 1997 and December 2004 at the University of Southern California--University Hospital in Los Angeles. The patients were divided into two groups: those from before and after January 2000. This was not an arbitrary date; rather it marks the start of USC surgeons using the transfusion-avoiding techniques in all patients. Although the bulk of patients studied came after that date--only 33 non-Jehovah's Witnesses received transplants prior--the new techniques showed that transfusions of donated blood significantly declined, saving both blood and money. Even the sickest patients required fewer transfusions; typical liver transplants required as many as 14 units of packed red blood cells in 1997 compared to roughly five by 2004.

"Blood can almost never be 100 percent safe," Jabbour and his colleagues write in the paper presenting the finding in the September issue of *Archives of Surgery*. "Despite the current conviction among physicians that blood products are safer than they used to be, there are reports of transfusion-related transmission of hepatitis C and [HIV] and emerging data of newer pathogens." The doctors also note that the more blood transfusions given, the more likely organ rejection and ultimate death. The Jehovah's Witnesses may have some trouble predicting the apocalypse, but their antitransfusion stance seems to have helped surgeons and their liver transplant patients.