

Survival matching should be used to allocate donated kidneys to transplant recipients

March 17 2011

Providing kidney transplants to patients with the best probability of longer survival would reduce repeat transplant operations and improve life span after kidney transplant, says a U-M researcher in a commentary published in the New England Journal of Medicine March 16.

Alan B. Leichtman, M.D., professor of Internal Medicine at U-M and his co-authors endorsed new concepts designed to improve kidney allocation. These concepts were circulated in February by the Organ Procurement and Transplantation Network (OPTN). The OPTN is the federal contract that oversees solid organ recovery and allocation in the United States.

"We strongly support the concept of rank ordering donated kidneys based upon their potential post-transplant survival, and matching that survival to that of waitlisted kidney transplant candidates," says Leichtman, the commentary's lead author.

"The current deceased donor kidney allocation system allows distribution of kidneys with very short potential survival to candidates with long expected survival. Candidates with long potential lifetimes that received kidneys with short expected survival have twice the repeated transplantation rate than similar recipients who received organs with a longer expected survival rate."

The current U.S. deceased donor kidney allocation system relies primarily upon how long a candidate has been waiting for an organ.

However, systems for liver and heart transplantation allocation are based upon candidate medical urgency. The lung allocation system allocates organs based upon a mixture of medical urgency and expected one-year post-transplant survival.

The Organ Procurement and Transplantation Network has released for public comment three proposed concepts for deceased [donor kidney](#) allocation.

1. Using a Kidney Donor Profile Index to rank deceased donor kidneys according to the length of time that the kidney would be expected to function in an average kidney transplant recipient.
2. Allocating the 20% highest quality kidneys to the 20% of candidates with the longest expected post-transplant survival.
3. Allocating the remaining 80% of kidneys such that candidates who are within 15 years (older or younger) of the donor's age have highest priority.

Because of the current system and the aging of the candidate pool, post-transplant life span following kidney transplantation in the United States has declined on average by 18 months since 1995, Leichtman says.

The authors say that computer simulations based on the current donor pool suggest that more than 35,000 years of post-transplant survival are lost each year under the current system. Additionally, more than 10,000 years of incremental post-transplant survival -- extra years of life that would not have been achieved without the benefit of transplant -- also are lost each year.

"We are wasting hundreds of thousands of potential years of life,"

Leichtman says. "The proposal for survival matching as described in the concept document has the potential to reclaim many of these lost years of life, and therefore warrants serious consideration."

The authors also support using the proposed Kidney Donor Profile Index. The new index provides a more granular and accurate survival estimate for organs.

"We suspect that utilization rates of shorter-lived kidneys will increase with accurate information about their survival potential and reduced opportunity for potentially short-lived candidates to be allocated kidneys with long estimated post-transplant survival," the authors wrote.

About 80,000 people are listed nationwide for a kidney transplant. Demand continues to increase, some of it driven by an unnecessarily high rate of repeat transplantations because kidneys and recipients weren't well matched, says Leichtman.

Kidney transplants are the most common transplants done at the University of Michigan Transplant Center and nationwide. But more than half of those who get wait-listed for a kidney transplant in the U.S. never receive a transplant.

"The lost potential life years, and the increase in the waiting list resulting from an unnecessarily high rate of repeat transplantation are intolerable consequences of the current kidney transplant allocation system," Leichtman says. "There likely are further opportunities for improvements to the proposed system, but the core proposals presented in the concept document, adoption of the KDPI and survival matching, warrant the strongest endorsement and the earliest possible implementation by the [kidney transplant](#) community."

Provided by University of Michigan Health System

Citation: Survival matching should be used to allocate donated kidneys to transplant recipients (2011, March 17) retrieved 5 May 2024 from <https://medicalxpress.com/news/2011-03-survival-allocate-donated-kidneys-transplant.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.