

'Nature vs. nurture' study of deceased donor pairs in kidney transplantation

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The implications of a new study could improve the outcomes, and potentially survival rates, for some of the thousands of individuals who undergo kidney transplants each year. The study concluded that donor-related risk factors, yet to be identified, make a measurable contribution to the ultimate success or failure of a kidney transplant.

The study, "'Nature versus Nurture' Study of Deceased Donor Pairs in Kidney Transplantation," was supported by the Robert Wood Johnson Foundation Physician Faculty Scholars program and is to be published in the April 22nd online edition, and the June print edition, of the [Journal of the American Society of Nephrology](#). It examines outcomes over a three-year period in pairs of kidney recipients, each of whom received a kidney from the same deceased donor.

The study found that when two recipients get their respective kidneys from a single deceased donor, certain so-called "unmeasured risk factors" in the donor can significantly contribute to both recipients' risk for two kinds of problems. The first problem is "delayed graft function" (DGF), or sluggish [kidney function](#) requiring a period of dialysis; the second is kidney failure.

According to Ajay Israni, M.D., M.S., lead author of the study, more research is needed to better understand what these "unmeasured risk factors" are. He added that changes are needed in public-health policy laws, so that when a patient's kidney fails, his or her provider is permitted to share that information with the provider whose patient

received the partner kidney.

"If providers were allowed to share this critical information with each other, we could potentially increase survival rates by intervening with the surviving patients," Dr. Israni said. Examples of possible intervention strategies, he said, include an increase in monitoring and surveillance of the surviving patient, catching a potential kidney rejection before it gets out of control, and/or tailoring [immunosuppressive drugs](#) to reduce the possibility of rejection.

Dr. Israni is an Assistant Professor of Medicine and an Adjunct Assistant Professor of Epidemiology and Community Health at the University of Minnesota. He conducted the research as a member of the Robert Wood Johnson Physician Faculty Scholars program.

An additional finding of the study is that slight variations in medical procedures used at different [transplant](#) facilities had a less significant impact on [kidney failure](#) outcomes than the unmeasured risk factors did. However, transplant center procedures did have an effect on the rates of DGF. This finding suggests that there are variations in early post-transplant management at transplant centers that may be contributing to delayed [kidney](#) function.

Additional Study Information:

The study examined the risks of DGF and transplant failure within 19,461 recipient pairs having the same deceased donor and transplanted between 1995 and 2003, using data from the United States Renal Data System. It examined the within-pair correlation of these outcomes among recipients of kidneys from the same deceased donor, and adjusted for transplant center effect by estimating separate odds ratios (OR) for recipient pairs transplanted at the same transplant center and at different transplant centers. The authors detected the transplant-center

effect by measuring the difference in outcomes for the paired kidneys from the same deceased donor transplanted at the same versus different centers.

Source: Robert Wood Johnson Foundation Health & Society Scholars

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