

Kidney donors suffer few ill effects from life-giving act, landmark study finds

March 9 2010

In a landmark study of more than 80,000 live kidney donors from across the United States, Johns Hopkins researchers have found the procedure carries very little medical risk and that, in the long term, people who donate one of their kidneys are likely to live just as long as those who have two healthy ones.

The findings, published in the March 10 issue of the [Journal of the American Medical Association](#), confirm what doctors have long believed: Kidney donation, which saves the life of the recipient, poses little risk to the donor.

"Donating a kidney is safe," says transplant surgeon Dorry L. Segev, M.D., Ph.D., associate professor of surgery at the Johns Hopkins University School of Medicine. "Live donors start healthy and it's the highest priority of the surgeon and the entire transplant community to make sure they stay healthy. This study says we have succeeded. While there are never any guarantees with surgery, donating a kidney is safer than undergoing almost any other operation."

Segev and his colleagues looked at data from a national registry of 80,347 live kidney donors in the United States from April 1, 1994 to March 31, 2009. There were 25 deaths in the first 90 days after donation surgery over the course of those 15 years, putting the risk of surgical mortality at 3.1 per 10,000 cases. The risk was slightly higher for some subgroups that typically have higher risk from surgery — namely, men (5.1 deaths per 10,000 cases) and African-Americans (7.6 deaths per

10,000 cases) — but the risk in those groups was still very small.

By contrast, Segev says, the risk of surgical mortality from gallbladder removal is roughly six times higher (18 per 10,000 cases), while the risk from non-donor nephrectomy — removing a kidney because of cancer or another medical reason — is approximately 260 per 10,000 cases, 100 times the risk of donating a kidney.

In the analysis, the research team found the risk to kidney donors remained low even as the number of live donor kidney transplants in the United States nearly doubled over the past 15 years from 3,009 in 1994 to 5,968 in 2008. Patients with kidney failure have been relying more and more on live kidney donors who offer to give one of their kidneys to a friend or family member in need because there is a profound organ shortage in the United States, and live donor transplants tend to survive longer than those from cadavers. Thousands of people die each year while awaiting kidneys from deceased donors. The 15-year period covered by the study included a transition from mostly open-abdomen kidney removal to minimally invasive, laparoscopic kidney donation, a technique with tiny scars and shorter recovery times. At The Johns Hopkins Hospital, where the laparoscopic procedure for kidney donation was pioneered, researchers say it has made [kidney donation](#) much less onerous.

Previous studies of live donors have been done at single-transplant centers with homogenous populations. Segev's study is the first to use national data.

"Whatever happens when people donate kidneys, on average, it doesn't affect the rest of their lives — and that has never been shown before in a study of this size and scope," he says.

Provided by JAMA and Archives Journals

Citation: Kidney donors suffer few ill effects from life-giving act, landmark study finds (2010, March 9) retrieved 24 April 2024 from <https://medicalxpress.com/news/2010-03-kidney-donors-ill-effects-life-giving.html>

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