

Study quantifies kidney failure risk in living kidney donors

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Researchers have developed a risk calculator to provide personalized risk estimates of developing kidney failure after donation. The findings, which appear in an upcoming issue of the *Journal of the American Society of Nephrology (JASN)*, may be useful for individuals considering donation, for living donors wishing to understand their long-term risk, and for clinicians who monitor the long-term health of living donors.

Research suggests that there are minimal health consequences for individuals who selflessly donate a kidney, but only a few comprehensive studies have looked at this issue. Also, although long-term studies of living [kidney donors](#) have reported low rates of premature death and [kidney failure](#), personalized estimates based on [donor](#) characteristics have not previously been available.

To help provide accurate estimates of long-term risks, a team led by Dorry Segev, MD, PhD, of the Johns Hopkins University School of Medicine and the Johns Hopkins School of Public Health, studied information on 133,824 living kidney donors from 1987 to 2015, as reported to the Organ Procurement and Transplantation Network.

Overall risk was quite low: the investigators predicted that the median risk of kidney failure was only 1 case per 10,000 donors at 5 years after donation and only 34 per 10,000 donors at 20 years after donation. Nevertheless, black race and male sex were associated with 3.0- and 3.9-times increased risks of developing kidney failure, respectively. Among nonblack donors, older age was linked with greater risk, but this

was not seen in black donors. Higher body mass index was also associated with an increased risk of kidney failure.

The findings suggest that greater permissiveness may be warranted in older black candidate donors, and that young black candidates should be evaluated carefully.

"Because living [kidney](#) donors voluntarily undergo surgery for no direct medical benefit to themselves, it is incumbent upon the transplant community to provide them with accurate estimates of long-term risk," said Dr. Segev. "Our risk prediction model may be helpful to individuals considering donation, and to living donors and their care providers as they plan long-term follow-up care and health maintenance," added lead author Allan Massie, PhD, MHS.

More information: "Quantifying post-donation risk of ESRD in living kidney donors," [DOI: 10.1681/ASN.2016101084](https://doi.org/10.1681/ASN.2016101084)

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