

## One Kidney is More Than Enough

Living kidney donors survive, thrive, and rarely suffer from kidney problems.

Posted By [Dave Levitan](#) on March 4th, 2009 in [health](#)

Anthony Thein has a scar running from the left side of his torso to just past his navel. It is only when he catches a glimpse of the scar in the mirror that he thinks: “Oh yeah, that’s where they took the kidney out.”

It is understandable that he forgets, as the operation occurred 42 years ago, in early January, 1967. “Being a donor has not hindered me physically in any way,” says Thein, and he is not alone. As a recent [1] [study](#) published in the *New England Journal of Medicine* found, living kidney donors live as long or longer and enjoy better quality of life than the general population. It is the first study to follow almost 3700 donors over such a long period of time.

[2] [Kidney donors](#) are carefully screened before being allowed to donate, so in some ways it is not surprising that they are generally healthy compared to others who might not pass such screenings. Donors cannot have any trace of diabetes or other chronic diseases, nor can they have high blood pressure or a number of other health issues. It has long been known that the removal of one kidney results in an increase in the other of the primary measure of kidney function, called the glomerular filtration rate or GFR. The average donor quickly regains about 70 percent of the total GFR, and often more in younger and healthier individuals. This study makes it clear that these changes and the donors’ general good health result in long, full lives.

“Quite honestly I think people suspected this all along,” says [3] [Hassan N. Ibrahim](#), the lead author of the study and a physician at the University of Minnesota in Minneapolis. He says that physicians tended to tell prospective donors that their long-term prognosis is most likely good, but “prior to this study we did not have robust data to make that assertion.”

The robust data he mentions was collected from 3,698 donors, some of whom donated as long ago as 1963. Only 11 donors developed severe kidney problems known as [4] [end-stage renal disease](#), representing a substantially lower rate than is seen in the general population. Among a smaller group of donors, the researchers also conducted tests of quality of life measured both in terms of mental and physical health. The donors’ quality of life was better than the general population 60 percent of the time, Ibrahim says.

“We would like kidney donation to be more prevalent and more common, because we have a lot of people on the waiting list, but our commitment should always be to the donor,” Ibrahim says. With more than [5] [75,000 patients](#) in need of a kidney in the U.S., the average waiting time for the organs from a deceased donor in the United States is five years. According to the [6] [National Kidney Foundation](#), 3,916 patients waiting for a kidney in 2006 died before one became available. Living donation can circumvent the wait, as a donor can give a kidney to a well-matched relative or loved one. In 2007, about 6,000 of the more than 16,500 kidney transplants performed were from living donors.

Some donors didn’t expect that they would remain in such good health. Susan Kivi of St. Paul, Minnesota, who donated a kidney to her brother in 1983, participated in the study and was surprised to hear that her one kidney functions as well or better than the two kidneys that most people have. She says that having this sort of information could reassure potential donors. “I had somebody call me a few years back who wanted to know about it, and she ended up donating to her brother too. I mean, why wouldn’t you want to

help somebody? Especially when it's such a breeze these days." More than 25 years ago, Kivi took two months off from her work at the Minnesota state lottery in order to donate. [7] [Modern techniques](#) allow donors to be back on their feet and working much more quickly, and without the large scars of earlier years.

Although the study's results are reassuring, [8] [Jane Tan](#), a professor of nephrology at Stanford University Medical Center, who was not involved in the research, wrote an [9] [editorial](#) in *NEJM* about the study and says that it does have limitations. The donors involved were almost universally white, and they were younger than the average age of donors today. These factors make it difficult to extrapolate the results to all potential kidney donors.

"[Living donation] is the one exception in medicine where we take a healthy person and put them under potential harm," says Tan. "I always point out [to potential donors] that you have to be somewhat comfortable with the unknown. But now when I talk to patients, I can refer to this study and say, 'well, the largest and longest study has been published.'"

For Anthony Thein, Susan Kivi and others who donate to blood relatives, the decision often is easy if it is a matter of life or death. But as techniques and tissue matching improve and concerns over organ rejection consequently lessen, Tan says this type of information on long-term health may help raise the rates of donation between spouses and other non-blood relatives.

Thein, who was a professor of music in North Dakota for 37 years, says that when he donated, the doctors informed him that they were in essence buying a few more years of life for his younger brother Tom. Forty-two years later, both recipient and donor are alive and well. "When I see my brother – who married one of his nurses from the hospital – with his grandkids and realize that he would not have had that opportunity if I hadn't been the donor?" Thein says. "Well, that's satisfaction enough right there, I think."

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- [1] study: <http://content.nejm.org/cgi/content/abstract/360/5/459>
- [2] Kidney donors: <http://www.kidney.org/transplantation/livingDonors/index.cfm>
- [3] Hassan N. Ibrahim: <http://www.med.umn.edu/renal/faculty/ibrahim/home.html>
- [4] end-stage renal disease: [http://www.healthsystem.virginia.edu/uvahealth/adult\\_urology/endstage.cfm](http://www.healthsystem.virginia.edu/uvahealth/adult_urology/endstage.cfm)
- [5] 75,000 patients: <http://www.optn.org/data/>
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- [7] Modern techniques: [http://www.mmc.org/mmc\\_body.cfm?id=2004](http://www.mmc.org/mmc_body.cfm?id=2004)
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