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Tuesday, November 14: 202-558-8423 (cell)  
Wednesday, November 15-Sunday, November 19: ASN Press Room, San Diego Convention Center, Room 13, 619-525-6293 (Press Room), 202-558-8423 (after hours)

## **KIDNEY BLOOD FLOW CHANGES MAY EXPLAIN INCREASED LONG-TERM RISKS FOR OVERWEIGHT KIDNEY DONORS**

**San Diego, CA (November 9, 2006)** — Living kidney donors who are overweight or obese have increased blood pressure within the remaining kidney—which could explain the increased long-term risk of kidney damage previously found in this group of donors, reports a paper being presented at the American Society of Nephrology's 39th Annual Meeting and Scientific Exposition in San Diego.

"Our study demonstrated that filtration pressure in the kidney was higher in overweight donors after donation," comments Dr. Mienke Rook of University Medical Center Groningen in the Netherlands. "Higher filtration pressure is potentially harmful in the long run and may lead to an increased risk of long-term renal damage in obese kidney donors. With this information we can better ensure donor safety, as higher filtration pressure can easily be treated."

Using sophisticated renal measurements, Dr. Rook and colleagues assessed kidney function in 200 living kidney donors a few months before and after donation. Changes in kidney function after donation were analyzed, focusing on the possible effects of the donors' body weight.

For overweight and obese donors, the filtration fraction— a measure of blood pressure within the kidneys—was significantly higher after kidney donation. Increases in filtration fraction occurred even in donors who were modestly overweight. "This reflected elevated blood pressure within the kidney, also called hyperfiltration," Dr. Rook explains. "Hyperfiltration means that the kidneys work harder, which can overburden them and eventually lead to renal damage."

Before and after donation, filtration fraction was higher for patients at higher levels of body mass index (BMI), a standard measure of body fatness. On adjustment for other factors, both higher BMI and older age were independent predictors of increased filtration fraction after living kidney donation.

Obesity and overweight are risk factors for kidney damage. "With the shortage of organs for donation, people who are older or obese are nowadays more readily accepted as living kidney donors, which may expose them to a higher risk of kidney damage," according to Dr. Rook. "To ensure donor

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safety, it is important to identify the mechanisms through which obesity may be harmful to the remaining kidney after donation."

In previous studies, co-workers from Dr. Rook's research group found that obesity-related hyperfiltration predicts increased rates of renal damage and transplant loss and an increased risk of early death in kidney transplant recipients. The new results suggest that higher filtration pressure in overweight or obese living kidney donors might also increase the donors' own long-term risks after donation.

Fortunately, increased filtration fraction can be treated. "Filtration pressure can be reduced by proven drug treatments, such as ACE-inhibitors and AT1 receptor blockers," says Dr. Rook. "Moreover, we recently discovered that a low-sodium diet can also correct overweight-induced hyperfiltration, and thus might be able to protect the kidney from the harmful effects of obesity."

The researchers believe that obesity-induced hyperfiltration is an important issue that deserves further research, including possibilities for treatment. "Our studies are important in the light of future strategies to limit risk for renal damage in prospective kidney donors with an unfavorable risk profile," Dr. Rook concludes. "Furthermore, follow-up of living kidney donors in both the short term and long term after kidney donation is warranted.

The study abstract, "Higher Body Mass Index is Associated with Higher Filtration Fraction after Living Kidney Donation" (SA-PO524) will be presented as part of a Poster Session on the topic of "Microvascular Regulation In Vivo" on Saturday, November 18 at 10:00 am in Halls A/B/C of the San Diego Convention Center and also discussed during a News Briefing on the topic of "Obesity and the Kidney" on Friday, November 17 beginning at 12:15 pm in Room 12 of the San Diego Convention Center.

The ASN is a not-for-profit organization of 9,500 physicians and scientists dedicated to the study of nephrology and committed to providing a forum for the promulgation of information regarding the latest research and clinical findings on kidney diseases. ASN's Renal Week 2006, the largest nephrology meeting of its kind, will provide a forum for 10,000 nephrologists, to discuss the latest findings in renal research and engage in educational sessions relating advances in the care of patients with kidney and related disorders from November 14-19 at the San Diego Convention Center in San Diego, CA.

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