

# Simultaneous kidney transplant plus weight loss surgery safe for obese patients

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A kidney transplant is often denied to patients who are obese due to an increased risk of surgical complications, particularly infections. Surgeons at UI Health—the clinical and academic health enterprise of the

University of Illinois Chicago—have pioneered the use of robotic-assisted surgery for kidney transplants in obese patients to successfully reduce surgical complications. The procedure has opened up a life-saving door to patients who would otherwise be stuck on dialysis to treat their kidney disease, which carries its own serious risks.

The UIC team, led by Dr. Enrico Benedetti, professor and Warren H. Cole Chair of Surgery, has shown that robotic-assisted [kidney transplant](#) and [weight loss surgery](#) can be performed safely. Their results are published in the *American Journal of Transplantation*.

"Obesity is a major risk factor for [kidney disease](#)," said Dr. Pierpaolo Di Cocco, assistant professor of surgery at UIC and co-author of the paper. "Performing robotic-assisted weight loss surgery together with kidney transplant is the logical next step because with one surgery, we give the transplant a better shot at success because the weight loss the patient will experience helps improve cardiac function and reduce stress on the new organ."

"With this simultaneous surgical approach, we can address end-stage kidney disease obesity—a major player in kidney disease—at the same time with a single operation and a single course of anesthesia," said Dr. Tzvetanov, associate professor of surgery, chief of transplantation and a co-author on the paper.

Obesity is considered a worldwide epidemic, according to the World Health Organization. By 2030, the number of overweight and obese individuals worldwide is projected to reach 2.16 billion and 1.12 billion, respectively.

Obesity is a major risk factor for cardiovascular disease and diabetes, which in turn affects the progression of chronic kidney disease. Often patients are treated with dialysis for years before they receive a kidney

transplant, which remains the best treatment for end-stage kidney disease. But for patients with obesity, a kidney transplant may not be approved.

Sleeve gastrectomy is a procedure that reduces the size of the stomach by approximately 75% and is one of the most common weight-loss surgeries.

Di Cocco and colleagues enrolled 20 patients into the study between 2012 and 2019. On average, patients had body mass indices, or BMI, of 44. A BMI of 30 or above is indicative of obesity.

Eleven patients received a robotic-assisted kidney transplant and sleeve gastrectomy and nine patients received robotic-assisted kidney transplantation alone.

All patients received weight-loss education and participated in a medically supervised weight loss program, which consisted of exercise and diet recommendations as well as visits with a multidisciplinary team of bariatric surgeons, nurse practitioners, medical consultants, dietitians, psychologists and exercise physiologists.

Patients who underwent both procedures were under anesthesia approximately 1 hour longer than those who underwent kidney transplantation alone. Two patients in the kidney transplant group experienced organ rejection at one year and three years post-surgery. No patients in the kidney-transplant-plus-sleeve-gastrectomy group experienced organ rejection.

A year after the surgery, BMI dropped an average of nine points in the group who received the combined robotic [sleeve gastrectomy](#) and robotic-assisted kidney transplants. The transplant-only group gained an average of two points. Patients in the dual-procedure group experienced

a 50% drop in excess weight, approximately.

"While it is encouraging that [patients](#) can safely undergo both robotic-assisted [kidney transplant](#) and [weight loss](#) surgery safely, it will take more follow-up time for us to understand all the potential benefits of this procedure," Tsvetanov said.

**More information:** Mario Spaggiari et al, Simultaneous robotic kidney transplantation and bariatric surgery for morbidly obese patients with end-stage renal failure, *American Journal of Transplantation* (2020). [DOI: 10.1111/ajt.16322](https://doi.org/10.1111/ajt.16322)

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