

# Multivisceral transplant survival rates improve with new treatment

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Data from the largest single-center experience of adult and pediatric intestinal and multivisceral transplantation show that survival rates have improved with the advent of innovative surgical techniques, novel immunosuppressive protocols and better post-operative management, said researchers at the Thomas E. Starzl Transplantation Institute in a study published in the October issue of *Annals of Surgery*.

Led by Kareem Abu-Elmagd, M.D., Ph.D., director, Intestinal Rehabilitation and Transplantation Center, Thomas E. Starzl Transplantation Institute, and professor of surgery, University of Pittsburgh School of Medicine, researchers assessed the evolution of intestinal and multivisceral transplantation by reporting the first 500 such transplants conducted at the University of Pittsburgh Medical Center (UPMC) from 1990 to 2008, which represent more than 25 percent of the worldwide experience.

"The findings support the minimization of immunosuppressive therapy for intestinal and multivisceral transplant patients," said Dr. Abu-Elmagd. "Our research found that survival rates for such transplant recipients greatly increased as treatment strategies evolved; this included the reduction in the use of immunosuppressive therapy."

Over nearly two decades divided into three eras, 453 patients received 215 intestine, 151 liver-intestine and 134 multivisceral transplants. Some of these patients are the longest surviving intestinal and multivisceral transplant recipients in the world, surviving more than 19 years post-

transplant with excellent quality of life.

During what the researchers dubbed Era I (1990 to 1994), transplant recipients were treated with the immunosuppressive drug tacrolimus and steroids. In 1994, this protocol was discontinued due to high mortality and morbidity rates. The five-year survival rate for these patients was 40 percent.

Era II (1995 to 2001) introduced the use of donor [bone marrow](#) to encourage organ acceptance. The five-year survival rate for these patients was 56 percent.

During Era III (2001 to 2008), patients were given a pre-conditioning protocol with agents that deplete recipients' own immune cells. Their post-transplant drug regimen was minimal and was initiated with tacrolimus, followed by steroids when necessary. Tacrolimus doses were subsequently spaced to a single dose twice to three times per week with a careful weaning process that started three to six months after transplant. Through the use of new immunosuppressive and management strategies, the five-year survival rate for these patients increased to 68 percent, which is similar to any other abdominal and thoracic organ transplant procedure.

"We have learned that patients who are using multiple anti-rejection drugs over a period of several years may experience long-term detrimental effects, which erodes survival rates beyond 10 years post-transplant," noted Dr. Abu-Elmagd. "With that in mind, we will strive to reduce use of these drugs as much as possible in our patients."

Source: University of Pittsburgh Schools of the Health Sciences ([news](#) : [web](#))

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