Stanford Adult Kidney Transplant Program Is Best Nationwide

By John Scandling, MD, and Joy A. Jones

For the fourth consecutive year, Stanford Hospital’s Kidney Transplant Program has the best one-year survival rate—about 98 percent—out of a nationwide field of 246 centers evaluated in the latest report from the Scientific Registry of Transplant Recipients. John Scandling, MD, professor of medicine (nephrology) and medical director of the Stanford Kidney Transplant Program, discusses improved kidney transplant outcomes and the effort to achieve better long-term success.

Nowadays, kidney transplantation is quite successful in the short term, with a one-year transplant kidney survival rate at more than 90 percent in the United States. Improved success in short-term outcome during the last 10 years is due to advances in tissue compatibility testing, surgical technique, immunosuppressive medications, and specialized medical care by dedicated transplant nurses, physicians, and surgeons. However, there is attrition over ensuing years. The average life expectancy of a kidney from a deceased donor is approximately 10 years. The average life expectancy of a kidney from a living donor is longer, about 18 years. One of the greatest challenges in transplantation today is to improve long-term outcome.

Kidney Transplant Facts

Approximately 16,000 kidney transplants were performed last year, with about 9,400 from deceased donors and 6,600 from living donors. Still, more than 60,000 patients are on the waiting list for a deceased-donor kidney transplant. Because the waiting time for such an organ is measured in years, more and more frequently, prospective recipients’ loved ones are donating a kidney of their own. As a result, live-donor kidney transplants have tripled over the last 15 years.

Taking a kidney from a live donor through laparoscopic, or minimally invasive, kidney donor surgery results in a more rapid return to daily life activities. Currently, more than half of live kidney donations are obtained laparoscopically. Live-kidney donors return quickly to full active lives without restriction on diet or physical activity. Women may have children after donation, and life expectancy is not affected by donation.

On the other hand, the kidney shortage is even more dire because chronic kidney failure is increasing, having more than doubled over the past decade. The U.S. population is aging.

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and changing, and accompanying that is an increase in the incidence of type 2 diabetes mellitus, the primary cause of chronic kidney failure.

**Multidisciplinary Approach to Transplantation**

All transplant programs share a basic foundation, but we are particularly committed to a multidisciplinary team approach at Stanford. Transplant surgery and transplant nephrology jointly share the responsibility of caring for the transplant candidate and the transplant recipient.

Dr. Stéphan Busque, Scandling’s counterpart in the Department of Surgery (transplantation), agrees with this philosophy. This consensus and commitment to shared responsibility of care is critical because it also extends to the patient. A kidney transplant is more than just a surgery; it’s a whole new way of life. The patient has to go on a regimen of immunosuppressants that requires a big commitment.

Stanford has a history of embracing new advances in the field—in the laboratory, the hospital, and the clinic. “We have actively participated in bringing new techniques in tissue compatibility and new immunosuppressive drugs into practice. It also helps that we’re one of the larger programs, so we have nephrologists and surgeons who devote most of their time to transplants,” says Scandling. “This isn’t to say that smaller centers can’t do a great job, but on average, the larger ones do better.”

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**Clinical Trial Improves Kidney Transplant Tolerance**

The clinical trial to induce tolerance in kidney transplant recipients is among Stanford’s ongoing research projects. Tolerance is the condition in which the immune system recognizes the transplant organ as self rather than foreign. Once tolerance develops, no immunosuppressive drugs are necessary.

Dr. Sam Strober of immunology is leading this project in collaboration with Dr. Maria Millan of transplant surgery and the kidney transplant program team. Only patients who have a complete-match sibling donor can participate in this trial wherein the recipient receives donor blood stem cell transplantation in addition to kidney transplantation. If the patient then develops and sustains chimerism—a condition wherein the recipient’s blood contains cells of donor origin—the immunosuppressive medication may be able to be reduced and then stopped completely at six months.

The first participant in this protocol recently stopped immunosuppressive medication and is enjoying excellent transplant kidney function.

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