Hand Transplant First In U.S.

Surgeons at Ronald Reagan UCLA Medical Center performed the first hand transplant in the western United States in an operation that began one minute before midnight on Friday, March 4, and was completed 14-and-a-half hours later, on Saturday, March 5. The transplant was performed on a 26-year-old mother from Northern California who lost her right hand in a traffic accident nearly five years ago. UCLA is only the fourth center in the nation to offer this procedure, and the first west of the Rockies. This was the 13th hand transplant surgery performed in the United States.

A team of 17 surgeons, anesthesiologists, operating room nurses and technicians were involved in the effort to graft the hand onto the patient. The operation began with two surgical teams working simultaneously to prepare the donor graft and the recipient. At 4:30 a.m. on Saturday, four-and-a-half hours after the operation began, the donor limb was joined to the recipient. The surgeons then began the complex work of attaching tendons, blood vessels and nerves to complete the surgery. Following the surgery, the patient was brought back to her room, where she was met by grateful members of her family. She remains at the medical center and will begin extensive physical rehabilitation and a regimen of immunosuppressant medication to help prevent her body from rejecting the new appendage.

"I am ecstatic with the results — a little tired, but ecstatic," said lead surgeon Dr. Kodi Azari, surgical director of the UCLA Hand Transplant Program and associate professor of orthopaedic surgery and plastic surgery at the David Geffen School of Medicine at UCLA, at the conclusion of the marathon surgery. "Everything went well. The size, color and hair pattern match between the donor and recipient is nearly identical. We are so proud to have been able to give our patient the gift of a new hand."

Azari was a surgeon in four previous hand transplant surgeries performed in the U.S. prior to coming to UCLA. The transplant was made possible by the generosity of the family of a deceased donor in San Diego. The donor's family worked with the staff at Lifesharing, who had been briefed last week by the transplant team at UCLA. Lifesharing, a division of UC San Diego Medical Center, is a non-profit, federally-designated organ and tissue recovery organization serving San Diego and Imperial counties.

The transplant surgery is part of a clinical trial at UCLA intended to confirm that surgical techniques already established in hand transplantation are successful. The trial also aims to study the return of function in transplanted hands and to assess the effectiveness and safety of a less toxic anti-rejection medication protocol. The transplant team will closely monitor the patient's progress and how well her body adjusts to the new hand. As part of this, doctors will map her brain at key points in her recovery, observing which parts light up when she is asked to move her fingers

or other parts of the new hand.

The UCLA Hand Transplant Program is aimed at helping those who have suffered the traumatic loss of a hand or forearm, allowing them to regain function and improve their quality of life. Eligibility criteria for the hand transplantation study include:

- The patient must be between 18 and 60 years of age.
- The amputation must have been at the wrist or at the forearm level.
- The patient must have no serious infections, including hepatitis B or C, or HIV.
- The amputation was not due to a birth defect or cancer.
- The patient is otherwise in good general health.
- The patient will commit to extensive rehabilitation, will adhere to an immunosuppressant medication regimen, and will participate in follow-ups with the transplant center.

After successfully completing a screening and medical evaluation, the patient is placed on a waiting list until a carefully matched hand from a deceased donor is found. After the transplant surgery, the patient will take immunosuppressive medicines for an indefinite amount of time to prevent rejection. Patients will also undergo an intensive rehabilitation regimen to restore function to the transplanted hand.

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