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Indiana Woman Undergoes Double Hand Transplant at Jewish Hospital

Louella Aker, 69, becomes first female hand transplant recipient in Kentucky

Louisville, Ky. (October 19, 2016) - A Jeffersonville, Ind. woman has become the first female hand transplant recipient in Kentucky and the tenth patient to receive a hand transplant from the Louisville Vascularized Composite Allograft (VCA) program. The program is a partnership of physicians, researchers and healthcare providers from Jewish Hospital, part of KentuckyOne Health; the Christine M. Kleinert Institute for Hand and Microsurgery (CMKI); the Kleinert Kutz Hand Care Center; and the University of Louisville.

During a 17-hour procedure on September 17, 2016, Louella Aker underwent a double hand transplant at Jewish Hospital. The 69-year-old acquired an infection while involved in the cleanup of Henryville, Ind. after an EF4 tornado hit the area on March 2, 2012. Aker was later diagnosed with septicemia and underwent a bilateral, below-the-knee amputation on her legs, left forearm amputation, and right partial hand amputation. Aker was added to the organ donor registry on September 18, 2015.

“There are so many things you cannot do without your hands. This will change my life and allow me to do the things I miss, like holding my granddaughter’s hand,” said Aker. “I spent many days praying for a donor, but also crying for the donor’s family for their loss. This is such a huge and exquisite gift they have given me and I thank and bless them for their sacrifice. I also want to thank the surgeons, my family and my church for their support.”

Twenty surgeons from Kleinert Kutz Hand Care Center, the Christine M. Kleinert Institute for Hand & Microsurgery and University of Louisville performed the procedure. Fourteen staff members from Jewish Hospital and six anesthesiologists also assisted with the surgery.

“Although a little slow, we are pleased with the progress that Louella has been making,” said Tuna Ozyurekoglu, MD, lead surgeon, Kleinert Kutz Hand Care Center. “She is truly a fighter who has continued to grow stronger each day following this surgery. We look forward to watching her return to her normal activities, as she shows the world how successful transplantation can be.”

“Operations such as this help demonstrate the enormous importance of organ and tissue donation,” said Christopher Jones, MD, director of adominal transplantation and associate professor of surgery, University of Louisville and Jewish Hospital. “If it were not for the donor family graciously agreeing to limb donation, the efforts of Kentucky Organ Donor Affiliates and neighboring organ procurement organizations, this certainly would not have been possible.”

Aker was placed on immunosuppressive medications to prevent rejection of the new hand.

“She is tolerating her medications, and to date, has no signs of clinical rejection,” added Jones, who is overseeing the patient’s immunosuppressive therapy by closely monitoring her for signs of rejection and adverse reaction to medications.

The success of the Louisville VCA program has led to additional funding for ongoing transplantation and research. Early funding for research on composite tissue allotransplantation and immunotherapy from the Jewish Hospital & St. Mary’s Foundation, also part of KentuckyOne Health, helped to bring about the nation’s first hand transplant. Other hand transplants were funded by the Department of Defense.

In late 2012, the Jewish Hospital & St. Mary’s Foundation allocated \$1.5 million for the Louisville VCA program to bring potential hand transplant recipients to Louisville for screening, performance of the hand transplantation surgery, and patient therapy and rehabilitation after surgery.

In 2013, the Louisville VCA program was awarded \$850,000 to fund a clinical trial of a new treatment that will help prevent rejection of hand transplants as part of the Armed Forces Institute of Regenerative Medicine (AFIRM) research program. AFIRM II is a five-year, \$75 million federally funded project that will focus on applying regenerative medicine to battlefield injuries. Results of this trial will be far-reaching and benefit not only military patients, but all hand transplant recipients.

“We are all very pleased at how well Ms. Aker handled the surgical procedure, and we are grateful that she agreed to participate in the AFIRM-funded study,” said Christina Kaufman, PhD, Christine M. Kleinert Institute for Hand and Microsurgery. “It is through participation in research by patients like Ms. Aker that we are able to find ways to make hand transplantation more accessible to everyone who might benefit.”

The AFIRM II funding enables Louisville VCA researchers to explore the potential for a cell-based therapy to help control the immune system’s response to a hand transplant, with a goal to lessen or eliminate the need for immune-suppressant drugs.

“It is amazing to be part of an extraordinary team, performing procedures such as this double hand transplant,” said Stuart K. Williams, II, PhD, director, Bioficial Organs Program, Cardiovascular Innovation Institute. “New innovations developed by investigators at the Cardiovascular Innovation Institute are being translated to help patients recover more quickly from transplant surgery.”

The Louisville team developed the pioneering hand transplant procedure and has performed hand transplants on 10 patients since 1999. The clinical trial is led by Dr. Tuna Ozyurekoglu, MD, with research at the CMKI and the Cardiovascular Innovation Institute, a partnership of Jewish Heritage Fund for Excellence and the University of Louisville.

Funding for the surgical procedure was provided by the Jewish Hospital & St. Mary’s Foundation, part of KentuckyOne Health.

Video of Louella Aker's hand transplant can be found at <https://youtu.be/5q329IX2Vcs>.

About Jewish Hospital

Jewish Hospital, part of KentuckyOne Health, is an internationally renowned high-tech tertiary referral center developing leading-edge advancements in hand and microsurgery, heart and lung care, home care, rehab medicine (including sports medicine), orthopaedics, neuroscience, occupational health, organ transplantation and outpatient and primary care. Site of the world's first successful hand transplant, the world's first and second successful AbioCor® Implantable Replacement Heart procedures, and world's first trial of cardiac stem cells in chronic heart failure, the hospital is in the select group that performs heart, lung, liver, kidney and pancreas transplantation.

About the Christine M. Kleinert Institute for Hand and Micro Surgery

Named in honor of Dr. Kleinert's mother, the Christine M. Kleinert Institute for Hand and Micro Surgery (CMKI) is a 501c3 non-profit organization with a mission of excellence in education and research in the field of hand surgery. The Institute is the home of the CMKI/University of Louisville Hand Surgery Fellowship, the largest and one of the oldest hand surgery fellowships in the United States. To date, this program has trained nearly 1,500 surgeons from all over the US and from 59 countries. CMKI fellows have gone on to chair departments, be presidents of societies, build research programs and start their own fellowships, here and abroad. Dozens of research projects refining surgical techniques, testing new devices, and pushing the frontiers of basic and clinical science in the field of hand surgery are currently underway. CMKI also provides patient rehabilitation services after surgery and patient recovery services without surgery through the Hand Therapy Center and Orthotic Care Center. For more information, please visit www.cmki.org or call [502.562.0310](tel:502.562.0310).

About the Kleinert Kutz Hand Care Center

Kleinert Kutz Hand Care Center is one of the largest hand and arm care programs in the world, with pioneering achievements in hand and microsurgery, research, therapy and orthotics. The 10 physicians of Kleinert Kutz offer expertise in orthopedic and plastic surgery and provide comprehensive care for the hand, wrist and arm. Kleinert Kutz's significant achievements include the nation's first five hand transplants, one of the world's first cross-hand replantations, pioneered work in primary reconstruction using free tissue transfer and national award for research in blood flow to the nerve. For more information, please visit www.kleinertkutz.com or call [502.561.4263](tel:502.561.4263).

About the University of Louisville

The University of Louisville is Kentucky's metropolitan research university, with 22,000 students attending classes at 11 colleges and schools on three campuses. Bordered by its many medical partners, UofL's downtown Health Sciences Center is home to more than 3,000 students pursuing degrees in health-related fields with the Schools of Dentistry, Medicine, Nursing and Public Health and Information Sciences, as well as 14 interdisciplinary centers and institutes.

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