

Videographers Cover Historic Hand Transplant

When the first hand transplant in North America was planned this past winter, it was essential that documentation be done well. Here in Louisville, doctors from Jewish and University Hospitals did not need to look any further than their own backyard for the service.

Randy Cissell, Ron Harrison and Ken High, from Information Technology's Television Services unit on the University of Louisville Health Sciences campus, were on hand to videotape the Jan. 24 operation in which, for the first time in the United States, New Jersey paramedic Matthew Scott received a donor's hand. The "composite tissue allotransplantation" surgery, which involved doctors from University of Louisville Hospital and Jewish Hospital's Kleinert, Kutz and Associates Hand Care Center, lasted 15 hours and involved a 17-member surgical team. It was unlike anything any of them had ever seen before.

"It was unique," Mr. Cissell says. "You could tell the surgical team was really pumped. The techniques were not new—it's the same surgical technique for replantation." A replantation is the reattachment of a digit, limb or tooth from the same person, not a donor.

"But," he says, "there was an aura about this one, that it was really special."

The 37-year-old transplant recipient, who lost his left hand in a 1985 firecracker accident, went on the waiting list Dec. 11. After that, UTV's videographers were on call, too. Being on call "was not the kind of thing hanging over me," says Mr. High. Still, it certainly was "a groundbreaking surgery. The protocol for us was the same as always, but there were so many more people—from all over the U.S., maybe internationally." At times, there were as many as 15 surgeons crowded into the operating room, observing. "I guess in a sense we weren't history-making, but we were part of history," says Mr. Harrison. "It was kind of an honor to be asked to be part of it."

The team brought in many combined years of expertise, so the actual taping was business as usual. Says Mr. Harrison: "We work with Jewish [Hospital] with various things. Our team has taped the first heart, first liver and first lung transplants in Kentucky. So, we were a natural fit for it with our experience in the O.R." Adds Mr. Harrison, "We were so excited that some of the footage made it to 'Dateline NBC!'"

Perhaps "48 Hours" might have been more appropriate. The surgery, all told, took "More like 20 hours," according to Mr. Cissell, and none of IT's people slept. "We kind of rotated shifts," he says. "We didn't sleep, because we didn't know what was going to happen," says Mr. High.

When things did happen, the uniqueness of the event was not lost on the cameramen. "I was sitting right behind the camera," remembers Mr. Harrison, "and I thought, this is somebody's *hand*. A heart is a heart—you don't see it again when they close up the sutures. This is a hand, and the guy's going to be looking at it!" Mr. Cissell recalls the momentous arrival of the appendage, in a picnic cooler, albeit not a Styrofoam box from the gas station. "It was a plastic cooler, and the hand was in a sterile solution in a sterile bag. I was a bit shocked when I first saw it. But that's how they get it here."

In choosing the patient, many considerations were taken into account. A trauma patient is actually preferable to a congenitally handless person, because the doctors know for a fact that the muscles and nerves are present and at least somewhat functioning, even

if they have been damaged. Considering that such a surgery involves painstaking linking together of skin, muscle, tendon, bone, cartilage, nerves and blood vessels from the patient's arm to the new hand, the fact that it even works is a wonder. Two days later, Matthew Scott made headlines when it was reported that he was able to already wiggle his fingertips.

The videographers shared in the wonder. "He was nearly a perfect patient," reports Mr. High. "He had just the perfect psychological makeup—good outlook, a supportive family." This attitude helped the adjustment early on. The actual transplant raised certain issues that were not lost on the observers. "There are considerations," continues Mr. High. "Obviously cosmetic, how it looked. [The patient] is amazed at how much it resembles his old hand." The selection process is much more complex than it is for an internal organ, taking into account such factors as hand size, sex and even race. "You're going to see this [the hand], hopefully for the rest of your life."

More serious than appearances, though, is the health risk associated with transplanting live tissue from one person to another. The patient must be on immunosuppressive and anti-rejection drugs for the rest of his life. "There's still a fairly high risk of tissue rejection," recounts Mr. High. "Less than 50 percent, but then, everybody's different." The transplant recipient must be monitored closely because of immunosuppressive effects, which put him at risk for opportunistic illnesses and blood clots. Still, early on, the surgery appears to have been a success.

"It's really cool, obviously," marvels Mr. High. "From what I hear, they're going to do at least 10 more, to evaluate the value of the procedure from a medical and technology view." Says Mr. Cissell: "They want to follow this patient," who is still in the area for rehabilitation.

"It was definitely an event," says Mr. Harrison. "I've never seen so many surgeons in a room! I didn't think it would get this much attention."