



Facing Forward

Nurses essential in groundbreaking face transplant

By Danielle Bullen

NURSES at NYU Langone Medical Center in New York City helped make history last year, when a surgical team performed the first face transplant in the state of New York. The grueling operation, which took more than 24 hours, was also the most complex face transplant procedure performed to date. At the front lines in the operating rooms and the recovery rooms were teams of hard-working nurses.

Nicole Sweeney, MS, RN, AGACNP-BC, RNFA, nurse practitioner and face transplant coordinator, said, “The nurses were incredible. They went into it with excitement and were completely dedicated to his care.”

The patient was Patrick Hardison, a Mississippi firefighter who sustained disfiguring burns fighting an intense blaze. He endured more than 70 surgeries before coming to NYU Langone. Surgeons elsewhere had resurfaced Hardison’s

face using skin grafts from his legs. The result was functional, but bore no resemblance to normal facial anatomy.

Complex Case

Hardison had exhausted all other reconstructive surgery options, one of the criteria for face transplant candidacy. “Before we even determine if a patient is a good candidate, we put them through a rigorous evaluation process,” Sweeney explained. “Patients must understand the risks involved.”

Face transplant candidates meet with multiple members of the care team, including psychiatrists, surgeons and nurses. Together, the team decides if the patient has any psychosocial issues that could prevent adherence to follow-up measures. A strong support system is needed, since transplant patients will be on anti-rejection medications for life.

Hardison, who had been recommend-

Photos courtesy NYU Langone



COLLABORATIVE VALUE: NYU Langone's face transplant team, including more than 100 surgeons, nurses, therapists, and other specialists

ed for the surgery by a fellow member of his church in Mississippi, introduced Hardison's case to the lead surgeon, Eduardo D. Rodriguez, MD, DDS. Rodriguez is the Helen L. Kimmel professor of reconstructive plastic surgery and chair of the Hansjörg Wyss Department of Plastic Surgery.

As face transplant coordinator, Sweeney is responsible for the full spectrum of care before, during and after the procedure. "It's a challenging role, but very rewarding," she said. Sweeney also works as a clinical investigator; Hardison's case is an ongoing clinical research study, with the medical staff hoping to use what they learned to further knowledge in this field.

Building knowledge was an important step to prepare for the surgery. Except for Rodriguez, it was the first face transplant experience for the 100-plus members of the NYU Langone team. Sweeney and her



LIFE-CHANGING PROCEDURE: Patrick Hardison pre-surgery and again post-surgery on Nov. 11, 2015

colleagues talked to nurses at other medical centers to learn from their face transplant experiences. "We also incorporated background knowledge of other patients who undergo plastic surgical procedures and solid organ transplants to create a care plan for our face transplant patient," she said.

Value of Teamwork

Nurses for the procedure were selected based on interest and past experience with reconstructive surgeries.

"We felt it was appropriate for nurses trained in plastic and reconstructive surgery to work with the recipient," Sweeney explained. Those nurses understand the instrumentation used in craniofacial surgeries. They have experience with the complexities of microvascular reconstructive surgeries.

For a year prior to the operation, the face transplant surgery team ran practice drills using cadavers. "In a live scenario, how would we set up the ORs and the instrumentation? How would we communicate between the donor and recipient room?" They rehearsed and laid out a plan for surgery day.

Face transplants, like all organ donations, require an intricate dance between two operations, that of the donor and that of the recipient. Procurement of the donor's face took 12 hours; preparing Hardison's new face took 8 hours. Each operating room had its own team of surgeons and nurses. Sweeney

was scrubbed into the donor's room. She is one of only two nurse practitioners at NYU Langone working in the OR.

"A big role for the nurses involved in the surgery was to maintain a calm environment and to make sure the surgeons had everything they needed," she said. Some nurses were circulating between rooms, some were scrubbing, some kept families up-to-date, some communicated between the rooms to coordinate timing, and some assisted in anesthesia. The donor room had two teams, one for removing the face and one for procuring other organs. (The patient's kidneys, heart, liver and eyes were donated to other recipients.)

NYU Langone worked closely with LiveOnNY, an organ procurement organization in Manhattan. According to the National Donor Designation Report Card, New York state ranks last in the percentage of its residents who have designated themselves as organ donors. "We have a platform for spreading the word about the importance of organ donation," Sweeney said.

Clinical Breakthroughs

"Face transplants are all unique and have their own challenges," Sweeney explained. "Clinically, it was a tremendous learning experience for all of us." This was the first face transplant performed at NYU Langone. Before surgery, 3D printing technology was

Cover Story

used to create individualized cutting guides from both the donor and Hardison's CT scans, ensuring a precise fit of the skeleton.

It was the first operation in which functioning eyelids were transplanted to a recipient with intact vision. Prior to the transplant, Hardison experienced insomnia because he could not totally close his eyes at night. His aperture of vision was limited due to the procedures he underwent after his injury. The transplant team corrected the limitations with the donor eyelids.

The surgeons also transplanted the donor's ears, ear canals and entire nose—two other milestones in face transplant surgery.

Once the surgery was complete, the nurses' work was far from over. OR nurses gave proper handoff to the recovery room nurses. In the PACU, nurses checked Hardison's airway status, monitored him for subacute rejection, and monitored the graft for appropriate profusion.

"Pain management was closely moni-

tored," Sweeney said. "We made sure he was as comfortable as we could keep him." One important aspect of his recovery was getting him back to a regular sleep-wake cycle. To facilitate that, Sweeney coordinated his checkups to take place during the day.

Slow but Steady Recovery

For Hardison, who is physically active in his daily life, staying confined to the hospital for an extended period of time was challenging. After the operation on Aug. 14, he remained in the recovery room for 2 days and the ICU for 2 months. He then transferred to the transplant floor, where he stayed for 2 weeks; then transferred to Rusk Rehabilitation at NYU Langone for 9 days. Once discharged from there, he remained in New York City for another month, undergoing outpatient rehabilitation before returning home to Mississippi in November 2015. He returns to NYU Langone monthly for checkups.

Ninety days postop, Hardison exhibited

no acute rejections. His recovery continues to amaze the nurses. "There have been no complications. He's doing really well," Sweeney said. She manages his dosage of anti-rejection medications and coordinates his care with his primary care physician back home. Sweeney also speaks or texts with Hardison on a regular basis.

This operation was different from any other the nurses had participated in—and not just because of its groundbreaking nature. That's because the nurses involved in postop care met Hardison before the surgery. "A lot of the staff had formed a bond with Patrick, and when you have that close relationship, you know the patient is depending on you," Sweeney said. "I am extremely grateful to work with such an extraordinary group of clinicians who were 100% dedicated to Patrick and performing this historic procedure." ■

Danielle Bullen is a staff writer. Contact: dbullen@advanceweb.com

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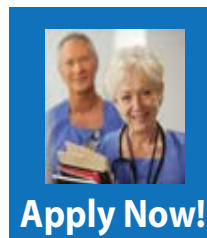
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