

# 'New chance at life': Man gets face, hands in rare surgery

February 3 2021, by Marion Renault and Marshall Ritzel

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Joe DiMeo poses for a portrait, Monday, Jan. 25, 2021 at NYU Langone Health in New York, six months after an extremely rare double hand and face transplant. (AP Photo/Mark Lennihan)

Almost six months after a rare face and hands transplant, Joe DiMeo is

relearning how to smile, blink, pinch and squeeze.

The 22-year-old New Jersey resident had the operation last August, two years after being badly burned in a car crash.

"I knew it would be baby steps all the way," DiMeo told The Associated Press. "You've got to have a lot of motivation, a lot of patience. And you've got to stay strong through everything."

Experts say it appears the surgery at NYU Langone Health was a success, but warn it'll take some time to say for sure.

U.S. surgeons have completed at least 18 face transplants and 35 hand transplants, according to the United Network for Organ Sharing, or UNOS, which oversees the nation's transplant system.

But simultaneous face and double hand transplants are extremely rare and have only been tried twice before. The first attempt was in 2009 on a patient in Paris who died about a month later from complications. Two years later, Boston doctors tried it again on a woman who was mauled by a chimpanzee, but ultimately had to remove the transplanted hands days later.

"The fact they could pull it off is phenomenal," said Dr. Bohdan Pomahac, a surgeon at Boston's Brigham and Women's Hospital who led the second such attempt. "I know firsthand it's incredibly complicated. It's a tremendous success."



Dr. Eduardo Rodriguez has Joe DiMeo demonstrate the flexibility in his new hands, Monday, Jan. 25, 2021 at NYU Langone Health in New York. Rodriguez led a surgical team that amputated both of DiMeo's hands, replacing them mid-forearm and connecting nerves, blood vessels and 21 tendons with hair-thin sutures. (AP Photo/Mark Lennihan)

DiMeo will be on lifelong medications to avoid rejecting the transplants, as well as continued rehabilitation to gain sensation and function in his new face and hands.

In 2018, DiMeo fell asleep at the wheel, he said, after working a night shift as a product tester for a drug company. The car hit a curb and utility pole, flipped over, and burst into flames. Another driver who saw the accident pulled over to rescue DiMeo.



Afterward, he spent months in a medically induced coma and underwent 20 reconstructive surgeries and multiple skin grafts to treat his extensive third-degree burns.

Once it became clear conventional surgeries could not help him regain full vision or use of his hands, DiMeo's medical team began preparing for the risky transplant in early 2019.

"Within the world of transplantation, they're probably the most unusual," said Dr. David Klassen, UNOS chief medical officer.



Joe DiMeo, right, demonstrates the flexibility in his fingers for Dr. Eduardo Rodriguez, Monday, Jan. 25, 2021 at NYU Langone Health in New York. A surgical team, led by Rodriguez, amputated both of DiMeo's hands, replacing them mid-forearm and connecting nerves, blood vessels and 21 tendons with hair-

thin sutures. The scar on DiMeo's forearm shows where the new hand was attached. (AP Photo/Mark Lennihan)

Almost immediately, the NYU team encountered challenges including finding a donor.

Doctors estimated he only had a 6% chance of finding a match compatible with his immune system. They also wanted to find someone with the same gender, skin tone and hand dominance.

Then during the search for a donor, the pandemic hit and organ donations plummeted. During New York City's surge, members of the transplant unit were reassigned to work in COVID-19 wards.

In early August, the team finally identified a donor in Delaware and completed the 23-hour procedure a few days later.

They amputated both of DiMeo's hands, replacing them mid-forearm and connecting nerves, blood vessels and 21 tendons with hair-thin sutures. They also transplanted a full face, including the forehead, eyebrows, nose, eyelids, lips, both ears and underlying facial bones.



Dr. Eduardo Rodriguez has Joe DiMeo demonstrate the flexibility and strength in his hands, Monday, Jan. 25, 2021 at NYU Langone Health in New York, six months after an extremely rare double hand and face transplant. Rodriguez, who led the surgical team, said he's amazed to see that DiMeo has been able to master skills like zipping up his jacket and putting on his shoes. "It's very gratifying to all of us," he said. "There's a tremendous sense of pride." (AP Photo/Mark Lennihan)

"The possibility of us being successful based on the track record looked slim," said Dr. Eduardo Rodriguez, who led the medical team of more than 140 people. "It's not that someone has done this many times before and we have a kind of a schedule, a recipe to follow."

So far, DiMeo has not shown any signs of rejecting his new face or

hands, said Rodriguez, who revealed details of the transplant Wednesday.

Since leaving the hospital in November, DiMeo has been in intensive rehabilitation, devoting hours daily to physical, occupational and speech therapy.

"Rehab was pretty intense," DiMeo said, and involves a lot of "retraining yourself to do stuff on your own again."

During a recent session, he practiced raising his eyebrows, opening and closing his eyes, puckering his mouth, giving a thumbs up and whistling. DiMeo can feel his new forehead and hands get cold, and often reaches up to push his long hair off of his face.





Joe DiMeo demonstrates how he can arrange his hair, Monday, Jan. 25, 2021 at NYU Langone Health in New York, six months after an extremely rare double hand and face transplant. In the 23-hour procedure the medical team replaced his full face, including the forehead, eyebrows, nose, eyelids, lips, both ears and underlying facial bones. (AP Photo/Mark Lennihan)



Joe DiMeo whistles softly, Monday, Jan. 25, 2021 at NYU Langone Health in New York, six months after an extremely rare double hand and face transplant. During the medical checkup, he practiced raising his eyebrows, opening and closing his eyes, puckering his mouth, giving a thumbs up and whistling. (AP Photo/Mark Lennihan)





Joe DiMeo and his plastic surgeon Dr. Eduardo Rodriguez pose for a portrait, Monday, Jan. 25, 2021, in New York. In the months since his face and double hand transplant, DiMeo has not shown any signs of rejecting his new face or hands, said Rodriguez, the director of NYU Langone's Face Transplant Program. (AP Photo/Mark Lennihan)

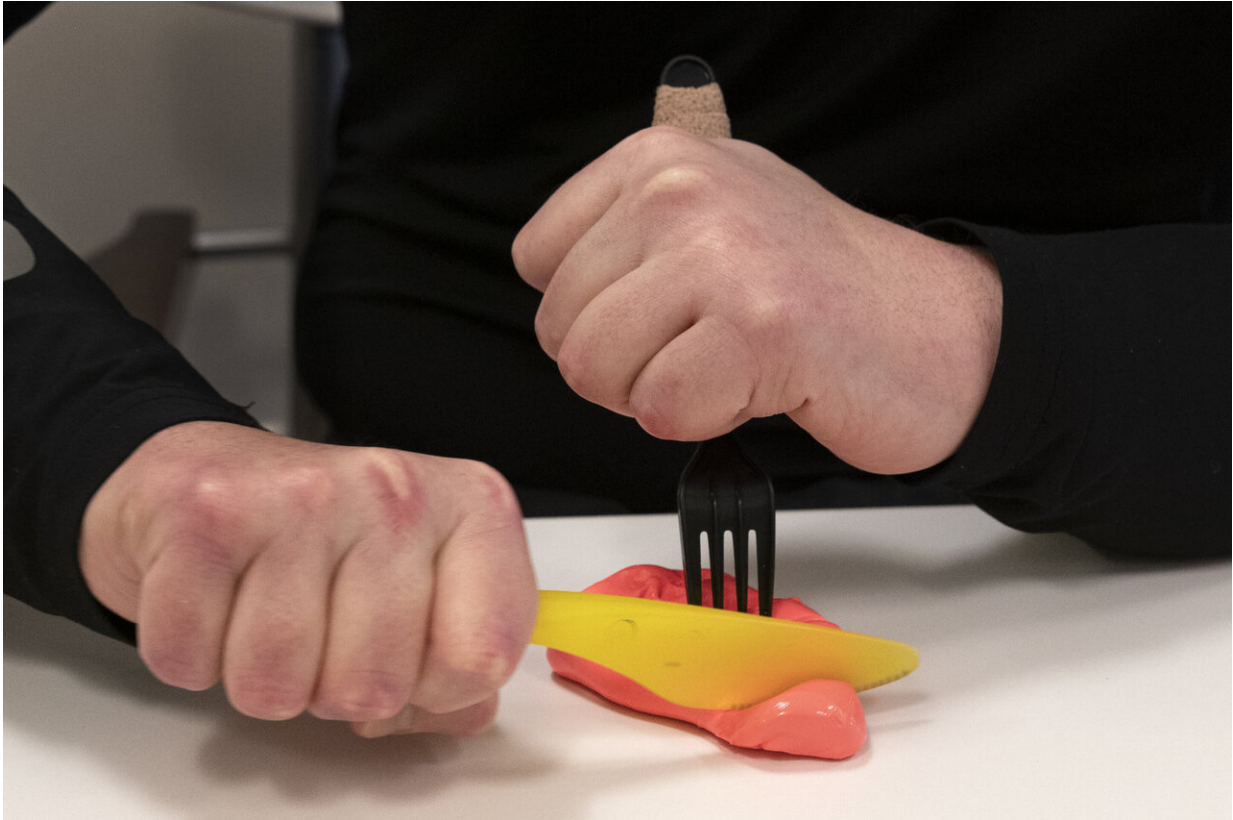


Joe DiMeo holds a tennis racket as he works in a physical therapy session, Jan. 25, 2021 in New York, six months after an extremely rare double hand and face transplant. Since leaving the hospital in November, DiMeo has been in intensive rehabilitation, devoting hours daily to physical, occupational and speech therapy. (AP Photo/Mark Lennihan)



Physical therapist Eric Ross, left, watches as Joe DiMeo lifts weights, Monday, Jan. 25, 2021 at NYU Langone Health in New York. The 22-year-old New Jersey resident had a face and double hand transplant operation last August, two years after being badly burned in a car crash. "I knew it would be baby steps all the way," DiMeo said of his recovery. "You've got to have a lot of motivation, a lot of patience. And you've got to stay strong through everything." (AP Photo/Mark Lennihan)





Joe DiMeo uses his new hands to grasp a knife and fork to cut some modeling plastic during an occupational therapy session, Jan. 25, 2021 in New York. DiMeo has been in intensive rehabilitation, devoting hours daily to physical, occupational and speech therapy. (AP Photo/Mark Lennihan)





Physical therapist Eric Ross, right, watches as Joe DiMeo exercises, Monday, Jan. 25, 2021 at NYU Langone Health in New York, six months after an extremely rare double hand and face transplant. The 22-year-old New Jersey resident had the surgery last August, two years after being badly burned in a car crash. "I knew it would be baby steps all the way," DiMeo said recently. "You've got to have a lot of motivation, a lot of patience. And you've got to stay strong through everything." (AP Photo/Mark Lennihan)



Joe DiMeo plays ball with his dog Buster in the backyard of his house in Clark, N.J., Thursday, Jan. 28, 2021, six months after an extremely rare double hand and face transplant. "In the future, I have a lot more plans for myself," he said. "You got a new chance at life. You really can't give up." (AP Photo/Mark Lennihan)





Joe DiMeo uses his cellphone while posing for a portrait, Monday, Jan. 25, 2021, in New York, six months after an extremely rare double hand and face transplant. Almost six months after a rare face and hands transplant, Joe DiMeo is relearning how to smile, blink, pinch and squeeze. The 22-year-old New Jersey resident had the operation last August, two years after being badly burned in a car crash.(AP Photo/Mark Lennihan)



Joe DiMeo brushes back his hair while posing for a portrait, Monday, Jan. 25, 2021 at NYU Langone Health in New York, six months after an extremely rare double hand and face transplant. During a recent medical checkup, he practiced raising his eyebrows, opening and closing his eyes, puckering his mouth, giving a thumbs up and whistling. DiMeo can feel his new forehead, and often reaches up to push his long hair off of his face. (AP Photo/Mark Lennihan)





Joe DiMeo clasps his new hands, Jan. 25, 2021 in New York. In the months since his transplant surgery, DiMeo has not shown any signs of rejecting his new face or hands. (AP Photo/Mark Lennihan)



Joe DiMeo plays pool with his father John at their home, Thursday, Jan. 28, 2021, in Clark, N.J., six months after an extremely rare double hand and face transplant. Back in 2018, DiMeo fell asleep at the wheel, he said, losing control of his car, which hit a curb and utility pole, flipped over, and burst into flames. (AP Photo/Mark Lennihan)



Joe DiMeo stands with his parents Rose and John in the backyard of their home in Clark, N.J., Thursday, Jan. 28, 2021, six months after an extremely rare double hand and face transplant. "In the future, I have a lot more plans for myself," he said. "You got a new chance at life. You really can't give up." (AP Photo/Mark Lennihan)

DiMeo, who lives with his parents, can now dress and feed himself. He shoots pool and plays with his dog Buster. Once an avid gym-goer, DiMeo is also working out again—benching 50 pounds and practicing his golf swing.

"You got a new chance at life. You really can't give up," he said.

As with any transplant, the danger of rejection is highest early on, but

lasts indefinitely. The medications he takes also leave him vulnerable, for the rest of his life, to infections.

"You're never free from that risk," Klassen said. "Transplantation for any patient is a process that plays out over a long period of time."

Still, Rodriguez said he's amazed to see that DiMeo has been able to master skills like zipping up his jacket and putting on his shoes.

"It's very gratifying to all of us," Rodriguez said. "There's a tremendous sense of pride."

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