

# Military, civilian medical communities team up to improve the lives of troops with severe disfigurements from war

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Courtesy of Operation Mend, UCLA Medical Center  
Before-and-after photos of Gunnery Sgt. Blaine Scott show his transformation after a dozen surgeries through Operation Mend at UCLA Medical Center in California.



Gunnery Sgt. Blaine Scott can now eat a cheeseburger without first having to tear it to pieces.

It's a small yet significant triumph for the 37-year-old native of Kellerton, Iowa. In 2006, a roadside bomb in Iraq scorched 40 percent of his body, including his face. Three of his fellow Marines died in the attack.

Scott endured more than a dozen surgeries during the 18 months he spent recovering at Brooke Army Medical Center in San Antonio, where 800 troops wounded in Iraq and Afghanistan have been treated at its burn center since 2003. But it wasn't until he returned to active duty and hooked up with Operation Mend at Ronald Reagan UCLA Medical Center that civilian plastic surgeons restored his ability to chew, gave him a new nose and further refined scars with another dozen surgeries.

"It's good to get back to the way I was," said the married father of three, whose youngest son knows him only by the face scarred by war.

Advances in combat medicine and body and vehicle armor have made war more survivable for troops like Scott. Today, 3 percent of troops in Afghanistan and Iraq die from their wounds, compared with 19 percent during the Vietnam War and 25 percent during World War II, according to statistics provided by the Pentagon.

But the price of survival is often paid with severed limbs, disfigured faces and burned bodies.

Operation Mend is among a growing number of partnerships the military has forged with the civilian medical community to help the tens of thousands wounded in combat, many with severe disfigurements. And recent investments in reconstructive surgery research point to the military's growing attention to improving life for war-mangled troops.

Established in 2008, the Armed Forces Institute of Regenerative Medicine, or AFIRM, was the first major effort. The \$250 million project brings together military doctors and 20 public and private medical centers for stem-cell research

focused on using patient and donor cells to reconstruct and reshape the body and reduce transplant rejection.

"The problem is when you have very large segments of composite tissue — meaning skin, fat, nerve, muscle, bone — that is missing from some of these horrific traumatic injuries," said Lt. Col. Barry Martin, chief of plastic surgery at Walter Reed Army Medical Center in Washington, D.C. "There is no effective way to rebuild that with current methods. So in the end you may get something that's somewhat functional, give the person the ability to chew their food again. But the cosmetic outcome, it never passes our gold standard test, which is: Can that person walk down the street and have nobody look at him?"

Perhaps the most extreme breakthrough could happen in the next 18 months, when a small group of veterans will receive full face transplants at Brigham and Women's Hospital in Boston. In December, the Pentagon awarded the hospital a \$3.4 million contract to perform six to eight face transplants. There have been seven successful face transplants worldwide since the first one in 2005.

The military has estimated that as many as 200 veterans would be eligible for the dramatic procedure, according to Brigham and Women's Hospital. It is a quantum leap from the tin masks painted to look like faces during World War I, when modern-day plastic surgery techniques were pioneered for troops maimed in trench warfare. Most combat casualties in Afghanistan and Iraq are caused by roadside bombs.

"Out of every conflict, you have advances in medicine," said Dr. Anthony Atala, director of the Wake Forest Institute for Regenerative Medicine, an AFIRM partner. "Medical advancements are often limited by resources. So partnering in this field is really beneficial to be able to transfer the technology to our wounded warriors."

But new techniques such as craniofacial implants for crushed skulls and growing artificial skin for burn victims also are being

developed inside such military hospitals as Walter Reed and Brooke, where many of the most severely injured troops are treated.

"We are on the cutting edge," Martin said.

Doctors at the major combat recovery hospitals typically handle only the initial and major reconstruction, and many troops are discharged before all procedures can be exhausted, he said.

Most major military and veterans hospitals have plastic surgeons on staff for follow-ups, but not all are qualified to meet every patient's specific needs, especially in the most severe cases. And after already spending months — if not years — in the hospital, traveling for more surgery can be challenging for many service members.

"I just wanted to get out of [the hospital] and get back to the Marine Corps," said Scott, the gunnery sergeant injured in Iraq. "I accepted this is how it's going to be for the rest of my life."

He opted for a procedure to help restore function to his mouth near the end of his 18 months at Brooke. But it was wholly unsuccessful, he said, and he left for Camp Pendleton, Calif., happy to finally be out of the hospital, whether he was able to chew properly or not.

After a friend recommended Operation Mend, he got a referral from doctors at Brooke and soon became the seventh servicemember to undergo reconstructive surgery through the UCLA program. Backed by philanthropist and inventor Ronald A. Katz, the program pays for expenses and procedures not covered by military or veterans insurance and has facilitated operations on 38 servicemembers since it was established in 2007.

For the most part, the military pays for all costs to make injured soldiers whole again, but at times will not cover certain

surgeries. Scott, for example, was the first to receive an orthopedic surgery for pain relief through Operation Mend, a procedure he said Tricare would not cover.

Navy plastic surgeons in San Diego are hoping to inspire a sea change in military plastic surgery with a new program called Comprehensive Aesthetic Recovery Effort, or Project CARE for short. It aims to incorporate more comprehensive plastic surgery options — including psychological counseling — into overall treatment plans for injured troops across the services.

"There's a change occurring in reconstructive medicine," said Navy Capt. Greg Salt, chief of plastic surgery at Naval Medical Center San Diego. "There's an old way of looking at things: It was save your life, your limb, your eyesight. Aesthetics has not been a major focus in recovery."

Salt and his plastic surgery partner, Cmdr. Trent Douglas, are also establishing a network of civilian plastic surgeons who can lend their expertise when needed, much like Operation Mend. Nearly 300 of them have expressed interest in working with the program, they said.

The benefits of plastic surgery are more than cosmetic for injured troops. The surgeries not only restore function in most cases, but also help many heal from invisible psychological wounds.

Even the most minor procedures have benefits, said Chief Petty Officer Aaron Seibert, a Navy corpsman whose legs and abdomen were sprayed with more than 100 pieces of shrapnel during a mortar attack in Iraq in 2006. Seibert, who still walks with a limp, was among the first patients assisted through Project CARE, undergoing a series of scar revision surgeries.

As the senior enlisted officer at the Wounded Warrior Battalion at Camp Pendleton, the 37-year-old encourages injured Marines and sailors in his unit to take full advantage of the corrective surgeries they are entitled to receive.

"Having battle scars tells your story," Seibert said. "On the other hand, it's a constant reminder of something horrible."

Stars and Stripes' Joe Gromelski contributed to this report.