

On a medical evacuation flight of warriors wounded in Afghanistan and Iraq, a reporter learns how combat medicine has changed, and yet how tragically familiar are the human costs of war.

Ambulance In the Air



There is no such thing as a “Splendid Little War.” The wounds: the mangled legs and lost arms, the burns and penetrating head wounds, the traumatic brain injuries, the post-traumatic stress disorder, the grief and the depression, the blindness and the pain, speak for themselves. The rest is no more than commentary.

—RONALD GLASSER, *WOUNDED: VIETNAM TO IRAQ*

■ By James Kitfield

The familiar choreography begins in the dark on a wind-swept flight line at Balad Air Base in Iraq; the performers have the stage pretty much to themselves. A bus painted with a large red cross maneuvers behind the open maw of a C-17 military transport aircraft. Service members able to walk file off the vehicle first, shuffling their way to webbed seats lining the aircraft’s cavernous hold. The waiting workers carry stretchers off the bus and lash them bunk-bed style to metal stanchions running down the center of the plane’s cargo bay. Many hours later, when the C-17 makes an interim stop in Germany, medical staff hoist additional gurneys up the rear ramp of the plane; these passengers are swathed in bandages and tethered to an emergency room’s worth of medical equipment. Another aeromedical evacuation flight is collecting the wages of America’s wars.



These operations take place mainly out of sight on restricted air bases, but the nearly nonstop flights taking tens of thousands of wounded and sick home from foreign battlefields represent a profound change in the American way of war. Since September 11, 2001, the Air Force's Air Mobility Command has flown 30,000-plus aeromedical evacuation missions and transported more than 150,000 patients. A trooper wounded on a battlefield in Afghanistan or Iraq tomorrow will reach a U.S. military hospital in Germany in about 30 hours, and arrive at an American medical facility in an average of three days. In 1991, troops wounded in Operation Desert Storm reached home in about 10 days, and during the Vietnam War the whole journey took an average of 45 days.

Combined with advances in combat medicine and body armor, the rapid air evacuation system has resulted in the lowest lethality rate compared with other U.S. wars. Wounded service members today have a remarkable 98 percent chance of surviving. As a trip aboard one such flight makes clear, however, behind every fatality lies a long roll call of the wounded and maimed, a hidden cost that few in the military and among Washington's policy makers seem to have fully grasped.

The air and medical crews on this 10th Expeditionary Air

■ **CHECKING IT TWICE:** First Lt. Jacqueline Wheeler (above) takes notes as she checks on the 38 patients who were loaded (opposite) onboard the 10th Expeditionary Air Force Evacuation Flight from Iraq.

Force Evacuation Flight were cobbled together from various Air National Guard and Air Force Reserve units. The flight crew was out of the 183rd Airlift Squadron of the Mississippi Air National Guard, by way of Jackson.

"We're just a big old ambulance in the air," says Senior Master Sgt. James Bennett, a burly and good-natured crew chief. Besides flying three overseas aeromedical evacuation flights a week, the squadron participates in other humanitarian and supply operations, recently flying 24 missions to Haiti with earthquake relief supplies. As the Purple Heart insignia on the aircraft attests, however, the crew draws its identity and sense of purpose from these aeromedical evacuation missions.

"We all like this mission because it's almost never boring," says Bennett, who concedes that the operation's tempo often keeps him away from home, and his four young sons, for long stretches. "If we were just hauling boxes around, it wouldn't feel like we were making much of a contribution to the war effort,

■ **Successes and Setbacks for the Wounded**

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- Burgeoning numbers of seriously wounded service members are **overwhelming the military's health system.**

but we typically haul cargo into theater, and 45 minutes after it's downloaded, we're an ambulance. That's when we feel like we're really making a real contribution."

Jacqueline Wheeler, a newly minted first lieutenant and a former enlisted airman who earned her nursing degree on the Montgomery GI Bill, directs the onboard medical crew. She and her team of three flight nurses and four medical technicians hail from the 109th Aeromedical Squadron, Minnesota Air National Guard. They administer to the 38 sick and wounded on the flight nonstop, dispensing meals and medication, helping patients to the toilet, even baking cookies in the plane's microwave oven. Their constant banter and camaraderie is an outgrowth of regular, high-stress deployments to combat theaters.

"Aeromedical evacuation teams share a special bond because this mission is much more intense and high stress than our civilian medical jobs, and that means we have to take care both of our patients and each other," Wheeler says while she monitors charts and shuffles paperwork. "But we come back home from these missions and live like civilians again, knowing that there are soldiers out there protecting us, just like these guys," she says. "You see them hurt, and you just want to do more for them, to give back somehow. We all feel that way."

A New Philosophy of Care

In the rear of the C-17, a three-member Critical Care Transport Team out of the 88th Medical Group, Wright-Patterson Air Force Base in Dayton, Ohio, monitors the three most gravely wounded soldiers. For nearly an entire 10-hour flight from Ramstein Air Base in Germany to Andrews Air Force Base in Maryland, Dr. Francisco Ramirez will stare at an array of monitors tracking the pulse, heart rate, and other vital signs of patients clinging tenuously to life.

"Hospitals are essentially quiet environments, so you can rely on hearing alarms if something goes wrong," he explains, speaking above the roar of wind and engine wash in the C-17's huge cargo bay. "None of that works in these airplanes, which means I have to have eyes on the patients 100 percent of the time."

The three critically wounded troopers were all injured in Afghanistan within the last 48 hours, he notes, and will be back in the United States within three days. "We've adopted an entirely different vision of combat medical care than we had back in Vietnam," Ramirez explains. During that era, the military built huge hospitals in combat theaters, as close to the battlefield as practical to quickly care for the wounded.

"Now we are fighting multiple wars with very dispersed and fluid fronts, which means we don't really have the luxury of having huge hospitals near all the action," he says. "So the psychology has changed to rapidly stabilizing the patients on the ground and then flying them back to the United States to receive definitive care as quickly as possible. That also reunites them as soon as possible with their families and loved ones."

Beside one of the critical-care gurneys, Capt. Trish Hayden monitors the life signs of a young man covered almost entirely with dressings; multiple tubes perforate his head, chest, and abdomen. Someone has crossed miniature American and Marine Corps flags atop his gurney.

A nurse in the Air Force Reserve, Hayden has been flying aeromedical evacuation missions for seven years. "This job is way more challenging and rewarding than my regular nursing job," Hayden says, nodding at her patient. "The best part is that this guy will probably make it, and he has family waiting at the

■ Busy Flight



end of this flight. But he doesn't even realize yet that he's lost both his legs, and that breaks my heart."

Harder to Die

It is simply more difficult for American troops to die on a battlefield in Iraq or Afghanistan than it was for their counterparts in any previous conflict, including Somalia in 1992, Kuwait in 1991, or Vietnam in the 1960s and '70s. For every death in Iraq and Afghanistan, 16 troops are wounded, compared with 2.4 wounded for every fatality in Vietnam.

In his book *Wounded: Vietnam to Iraq*, Ronald Glasser, a physician and a former officer in the Army Medical Corps during Vietnam, details the primary reasons: 21st-century body armor made of advanced ceramics and Kevlar that protects the head, torso, and vital organs, and in some cases can stop an AK-47 round or the shrapnel of an improvised explosive device; advances in combat medicine and techniques, such as easy-to-use tourniquets, advanced blood-clotting medicines, and increased training for medics in treating hemorrhaging; in-theater Forward Surgical Teams focused on the single, overriding task of stabilizing the wounded for transport; and a rapid aeromedical evacuation system that in extremis can fly wounded troops directly to a U.S. military hospital in hours, not days.

"In past conflicts like World War II or Vietnam, most soldiers were killed by penetrating chest or abdominal wounds that caused them to bleed to death," Glasser said in an interview. Today's advanced body armor dramatically limits those types of wounds, he notes, even as combat medics and military surgical teams have become expert at stopping bleeding and stabilizing patients, including those with grievous injuries. An aeromedical evacuation system that transports the wounded to definitive care within the "golden" 72-hour window after



Medical staff have to constantly monitor vital signs for 10-hour stretches above the din and roar of the C-17's engines.

an injury completes the new combat medical care model.

Because of its success in reducing war's fatalities, that transformation has also produced a surfeit of seriously wounded service members and veterans that is overwhelming the military's health system and the Veterans Affairs Department. A *Washington Post* investigation of problems at Washington's Walter Reed Army Medical Center in 2007 laid bare some of the side effects of that success.

The Pentagon officially lists 37,641 wounded in Afghanistan and Iraq, but the actual number is far higher. According to Freedom of Information requests filed by the advocacy group Veterans for Common Sense, 508,152 veterans of Iraq and Afghanistan were diagnosed and treated at VA hospitals and clinics as of September 30. According to VA figures, 143,530 veterans of the two wars have already been diagnosed with post-traumatic stress disorder, a lagging indicator of the costs of multiple deployments and cumulative combat stress. A report from the Rand think tank estimates that one in five (about 300,000) veterans of Iraq and Afghanistan suffer from PTSD or major depression.

Also confronting the military and veterans health systems is the number of service members with concussive brain injuries from improvised explosive devices, insurgents' weapon of choice in Iraq and Afghanistan. Army field studies indicate that more than 10 percent of troops who have served in those theaters have suffered at least one concussion or brain injury, the vast majority of those caused by IEDs. Approximately 1.9 million service members had deployed to both wars as of February 2009 (according to figures compiled by Veterans for Common

Sense), suggesting that more than 190,000 troops have suffered a concussion or brain injury. Although the effects of such brain injuries represent a relatively new field of medicine, some doctors suspect a link between concussive injuries and PTSD.

Whatever the cause, mental health disorders now result in more military hospitalizations than any other type of injury and are dramatically driving up the cost of care. In a recent speech, Defense Secretary Robert Gates warned, "Health care costs are eating the Defense Department alive."

"In a way, we have been lulled by our own successes in combat medicine into a strange kind of reverie," Glasser points out. "Despite the growing sophistication of our battlefield medicine and the new body armor, or perhaps because of them, the orthopedic wards at Walter Reed are becoming filled with numbers of amputees not seen since the Civil War, while more and more beds are being added to the neurosurgery, neurology, and psychiatric units. I've talked to a lot of military doctors and surgeons who tell me they can save a lot more troops today than ever before, but [the survivors] aren't going to be the same people as before their injuries."

God and Country

The night before an aeromedical evacuation mission, Sgt. Diane Bone can hardly sleep. "I'm just too wound up, wanting to do my best for these soldiers," says Bone, the Critical Care Transport Team's respiratory therapist. To calm down, she thinks about the parents waiting at the end of the flight. "That's my focus: We have to get these troops home to their moms and dads, because these men and women in uniform are truly heroes to me," she says. "I know that may sound corny, but it's why I joined the Air Force. It's all about God and country for me."

Just about all the medical and flight crew members on this 10th Aeromedical Evacuation Flight have a story to tell of their most memorable mission. Hayden's is about Army Sgt. Dan Powers. In 2007, Powers was patrolling on foot in Baghdad when an insurgent stabbed him in the head. A neurosurgeon at the military hospital in Balad, Iraq, removed the knife, and Hayden and her Critical Care Team flew Powers directly to Andrews, a 14-hour flight that required midair refueling.

"Today, Sergeant Powers is back in Afghanistan and doing just great; so in many ways, this is the best job in the world," Hayden says. She recounts the story of another soldier who was brain-dead by the time her team got him to Germany. "His mom, dad, and fiancé met up with him in Germany, and then his father flew back with him to the United States to donate [the soldier's] organs. So that's our job: We get these boys home so they can either get better, or we keep them alive long enough for their families to say goodbye."

No matter how one feels about the conflicts in Iraq and Afghanistan, every American could benefit from spending time in the company of the wars' wounded and maimed. Watching these young men and women clinging to life, at the mercy of machines that count their every breath and heartbeat, their bodies and souls trying to fill the spaces blown or shot out of them, a witness confronts an inescapable thought.

The same thought surely occurred to President Obama when he traveled last October to the tarmac at Dover Air Force Base in Delaware to meet the flag-draped caskets of fallen service members returning from Afghanistan in the middle of the night: This had better be worth it.

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Watch as the author narrates a slideshow about lessons learned from a medical evacuation flight from Iraq.