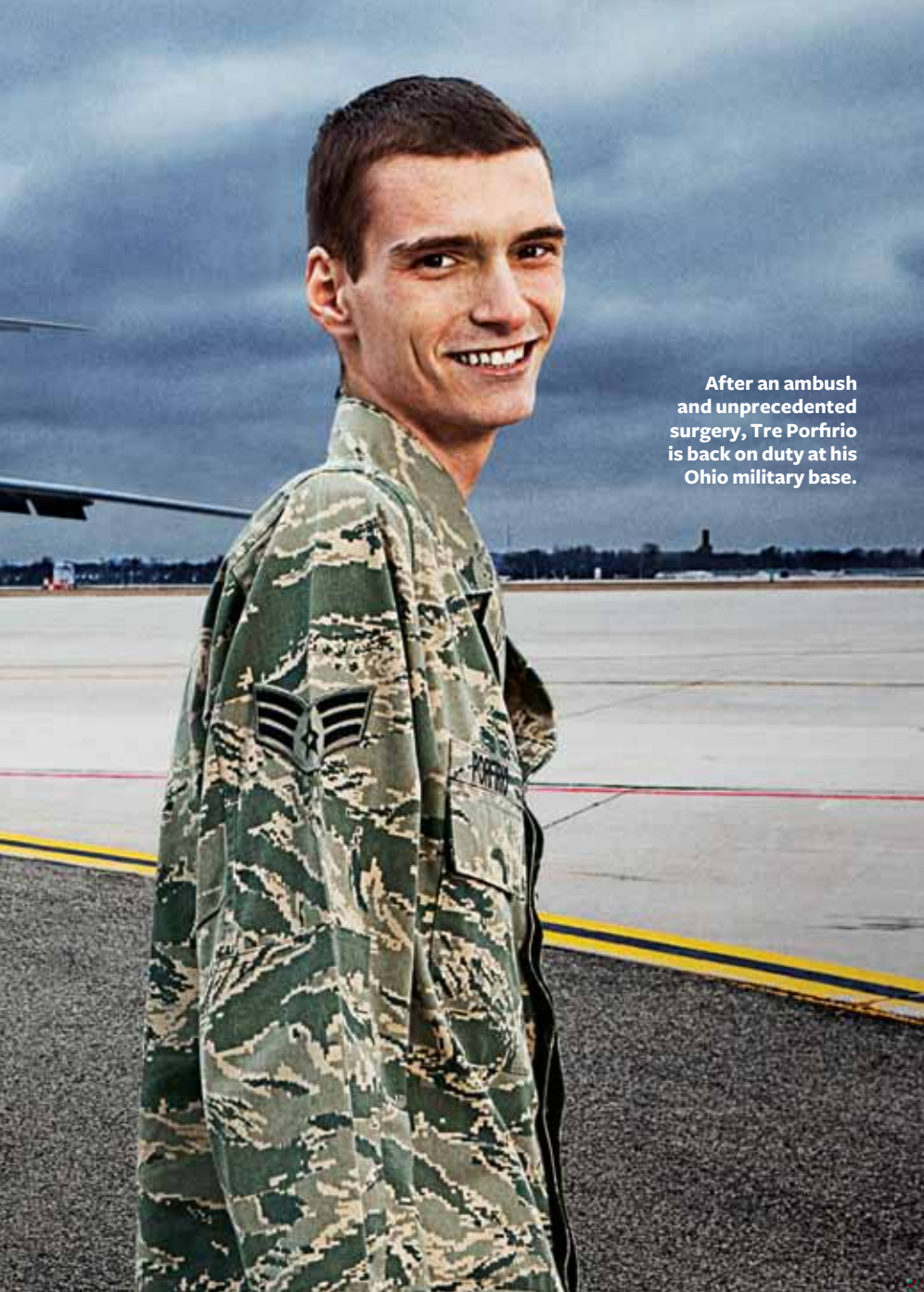


A large U.S. Air Force C-17 military transport aircraft is parked on a runway. The aircraft is white with "U.S. AIR FORCE" written on the side. The background shows a cloudy sky and a runway with yellow and red markings.

SAVING TRE

**GRAVELY WOUNDED
IN AFGHANISTAN, THE YOUNG
SOLDIER FACED A SHORTENED LIFE
FULL OF TERRIBLE ILLNESS. HIS
ONLY HOPE WAS A TRANSPLANT—
THE FIRST OF ITS KIND.**

BY TODD PITOCK



After an ambush and unprecedented surgery, Tre Porfirio is back on duty at his Ohio military base.



'm shot!" Tre Porfirio yelled. "I'm shot! Help!"

It had been an unremarkable November day at the command outpost in the mountains of southeast Afghanistan. Tre had spent it gathering wood, staying warm, and making sure the telecommunications systems were working.

He had heard footsteps coming up behind him but thought nothing of it—someone was always moving around, trying to get comfortable.

The outpost was crammed; there were about 74 Afghan army regulars and 24 Americans assigned to support them.

The Americans were clustered together on one side of the outpost; the Afghans were on the other. The hilltop base was fortified with gun turrets, concertina wire, and walls, but it was also surrounded by taller hills from which the enemy could watch their movements. Sleeping all in one place, Tre worried, made the Americans an obvious target for mortars, and one direct hit could take everyone out. So he'd found his own spot for his sleeping bag and settled in to watch *Twilight* on DVD.

Then, thinking of his upcoming shift, he got up to relieve himself before turning in for some sleep. Small stones crunched underfoot as he walked to the latrine.

When he heard someone behind him, he didn't even bother to turn around.

The shooter raised an M16 at point-blank range. The first bullet tore

through the lower left side of Tre's abdomen; the second ripped through the middle of his belly. A third went through his chest, just missing his lungs. The force of the bullets took him off his feet, but it was so sudden, he thought at first that he'd only twisted his ankle.

Then Tre saw the blood on the ground and smelled the undigested spaghetti he'd had for dinner spilling out of his burst stomach. He felt the gastrointestinal acids burning his skin. And he saw the Afghan army-issue boots as the shooter walked off.

I'm going to die, he thought.

He had promised his girlfriend this wouldn't happen. Tre had met Ahja Nock ten months earlier at a party at their base in Dayton, Ohio. Tired from a day of snowboarding, he'd planned to just make a quick stop at the gathering, and she'd been there only because her friend had dragged her out on a night she would have preferred to stay home. They played the game *Sorry*. When she and some

friends ganged up on him to keep him from winning, he messed up the board—a little obnoxious, Ahja thought, in an adorable kind of a way.

They spent the next day together, and the day after that. In fact, from the moment they met, they were almost never apart. But when the Army put in a request for an airman with expertise in telecommunications, Tre stepped up.

Two days after Tre left for training, Ahja found out she was pregnant. When Tre got the news, he thought Ahja was teasing him. Then he was thrilled. “I’ll be all right,” he told her.

Ahja believed him. She worried about him having to travel back and forth between outposts—convoys frequently drew fire—but a lot of men and women had returned from Afghanistan. Serving was part of being a soldier.

“They can shoot you,” she told him on the phone, joking, “as long as you come home.”

The offhand quip was how they communicated. She was a constant stream of energy, loved the outdoors, and was always game for an adventure. He was a six-foot-three practical joker who played computer games, watched wacky movies, and loved to make her laugh.

Although Ahja was strong and capable, Tre was committed to the idea of taking care of her—making sure she was okay and reassuring her that he was too. Once he was in Afghanistan, at the base near the border with Pakistan, he called or sent text messages every day.

And now he lay there, medics screaming instructions as they got him onto a flat surface to stanch the flow of blood and protect what they could of his shredded organs. “Tell

Ahja I’m sorry,” he kept saying. “Tell her I love her. Tell her I’m sorry.”



Before the ambush, Tre weighed 170 pounds. Little more than three weeks later, he weighed 118.

Col. Craig Shriver, MD, chief of general surgery at Walter Reed Army Medical Center in

Washington, D.C., peered into Tre’s abdomen. He didn’t like what he saw. The bullets had come within millimeters of killing Tre on the spot. He’d had two operations in Afghanistan, where surgeons had removed parts of his stomach and pancreas; they’d also taken out half a yard of his large intestine and a foot of his small intestine. In Germany, he’d undergone a third operation to prevent infection.

Altogether, he'd been given at least 13 units of blood.

Now, three days after the shooting, it was Dr. Shriver's job to reconstruct Tre's intestines and other organs as best he could. But barely minutes into the surgery, he realized things wouldn't be that simple. What was left of Tre's pancreas was leaking digestive enzymes. Their job was to break down protein in the intestine, but now they were digesting the pancreas itself and eating away at blood vessels.

"The danger is that once the bleed-

Tre had his life ahead of him. He'd been injured serving his country. He deserved a better result.

ing starts in a major vessel, you can't stop it," Dr. Shriver said. "It would be catastrophic."

Leaving the pancreas in was no longer an option, but taking it out was a bleak alternative. The organ's primary function is to produce insulin and glucagon—the hormones that regulate blood sugar. People without a pancreas develop the most severe form of insulin-dependent diabetes, in which blood sugar levels swing wildly from coma-inducing lows to organ-damaging highs. People with the condition can go blind or require amputation. They can wind up in heart failure or with brain damage. They can wind up dead.

Tre had his whole life ahead of him. He had been injured serving his country. He deserved a better result.

Standing there in the OR, Dr. Shriver thought he might—just possibly—be able to come up with one. He'd trained in treating pancreatic cancer early in his career, and he knew about something called an islet cell transplant. Islet cells are the pancreas's insulin producers, and it's possible to harvest them and infuse them into the liver. Effectively, the liver becomes a kind of surrogate pancreas while continuing its normal duties. Though it's not a common procedure—donor pancreases are scarce—islet cell transplants have been used for years to treat people suffering from chronic pancreatitis.

But it had never been tried with a patient in the midst of a traumatic crisis. Dr. Shriver would have to use Tre's own cells, since the wait for a donor pancreas averages more than two years. The upside was that Tre wouldn't need powerful, immunosuppressive drugs for the rest of his life. The downside: There was no way to be sure that his badly damaged pancreas still contained enough islet cells to do the job or if, after all the trauma, they'd even be usable.

And there were other hurdles. Tre was too unstable to be moved, and Walter Reed wasn't geared up to handle an islet cell transplant. Dr. Shriver and his colleagues would have to re-

move the organ and ship it to a center with the necessary equipment and specialists, then get the cells back for the transplant—all before Tre's condition deteriorated. On top of that, it was Thanksgiving eve, and people had scattered for the long weekend.

Dr. Shriver's colleague Rahul Jindal, MD, a senior transplant surgeon at Walter Reed, grabbed a phone and began dialing for doctors.

Camillo Ricordi, MD, head of the Diabetes Research Institute at the University of Miami Miller School of Medicine, had pioneered the islet cell transplantation procedure back in 1986. He'd spent the past two decades refining it. When Dr. Jindal reached him, Dr. Ricordi was getting ready to leave for the weekend. "I've got a wounded soldier," Dr. Jindal said.

Dr. Ricordi put his briefcase down and called in his team. They'd be working on Thanksgiving.

As Tre lay sedated in an operating room at Walter Reed, a courier carried a cooler onto a plane. Tre's pancreas was inside it.

Dr. Ricordi and his colleagues got it at 11 p.m. and went to work. They put the pancreas into a device—called a Ricordi Chamber, after its inventor—that uses enzymes and heat to break the organ down, freeing the islet cells. Then they spun the cells in a centrifuge and washed them. By 5 a.m., Tre's fate hung in a funnel-shaped bag full of something vaguely resembling pink lemonade. Most successful transplants have required about a mil-

lion islet cells, about two pancreases' worth; sometimes even that doesn't do the job. Dr. Ricordi's crew had managed to collect 220,000 of Tre's islet cells. Dr. Ricordi didn't know if that would be enough to help, but he figured it was better than nothing.

Back at Walter Reed, Drs. Jindal and Shriver prepared for what should have been a relatively straightforward final step: infusing the cells into the liver by way of the portal vein, the major blood vessel feeding the organ. In this case, they knew it wouldn't be easy—the portal vein had already been partly dissolved by the pancreas's caustic enzymes. But with Dr. Ricordi talking them through the procedure over the Internet, they managed to make it work.

Now they could only wait.

For the next two weeks, Ahja and Tre's father, Karl, stayed by Tre's side as he lay heavily sedated. Karl had been the one to get the notification that his son had been shot. A single father of five, Karl was an involved dad, and he and Ahja spoke often enough that when he called, she hadn't thought to worry. After hearing the devastating news, she took a warm bath, then sat in her car for a couple of hours, trying to calm down and protect her unborn baby from what she was feeling.

She and Karl flew to Walter Reed, where they kept vigil during the ten hours of the transplant. That night, Ahja went to a hotel but couldn't sleep, and after that, she just stayed in the



Doctors let Tre out of the hospital early so he could be present for his son's birth.

up. He'd never realized how often he needed his abdominal muscles. It hurt to sneeze. It hurt to laugh. But by day 20 after the transplant, Tre was eating regular food. On day 26, tests showed that his insulin production was normal.

It was the best result anyone could have hoped for, and Dr. Shriver knew the success would be important for many others. Now doctors had an option for anyone who'd injured his pancreas—in an accident, for instance—and couldn't wait for a donor organ. Indeed, Tre's recovery held out the hope that someday a simple injection of key cells could be a routine alternative to transplanting

hospital, waiting for Tre to wake up. She was holding his hand when he opened his eyes.

"Tre," Karl said, "do you know what happened?"

Tre needed a moment to realize he wasn't dreaming. "That bastard shot me," he said. "He didn't even wait until I turned around so he'd have to see my face."

Tre's skin was yellow and swollen; drips carried fluids into his system, and drains carried others out. He had gone from strapping to skeletal.

It took weeks before he could sit

an entire organ. And the fact that so few islet cells had been required suggested that eventually a single donor pancreas might be able to transform the lives of more than one recipient.

For Tre, there were days when everything hurt, when walking just a few steps was enough to exhaust him. But Ahja, her belly getting big now, was there with him, and that helped pass the time. And despite profound fatigue and intense pain, he could also feel his strength increasing. "I'm going to walk out of here on my own two feet," he said.

One day, as Tre convalesced, Ahja looked up from what she was doing to see him grab his throat with both hands. His already large eyes looked even bigger because he was so emaciated, and now they seemed to bulge out of his skull as if he were choking.

“Tre, what is it?” she cried, leaping out of her chair. “Are you okay?”

“Yeah,” he said. “I was just kidding.”

He had recovered his sense of humor.

In February, Tre, still gaunt, went home to Dayton. There would be more surgeries ahead—more than a dozen by the time the doctors were through. But he was on the mend, and there were other matters to attend to.

He and Ahja were nesting temporarily in a two-bedroom apartment while they built a new house near the

Air Force base. Tre passed the time playing video games and speaking to school groups about his experience in Afghanistan. His job now was to get strong again.

Then, on March 15 at 9 a.m., just short of four months since three bullets came within millimeters of killing

t hurt to sneeze. It hurt to laugh. But he was getting stronger. “I’m going to walk out of here,” he said.

Airman Porfirio, he and Ahja got in their car and drove to the now familiar hospital on the base.

The patient was Ahja, and the doctors weren’t concerned with saving a life but about bringing a new one—Landon Marcello Porfirio, 8 pounds 11 ounces, almost 20 inches long—into the world.

OBSERVE AND REPORT

Ruminations.com asks its users to reflect upon everyday life. Here’s what they spend their time pondering:

No matter how old I get, I’m pretty sure I will expect my parents to pay for me if we go out to eat.

My GPS says “Estimated Arrival Time.” I see “Time to Beat.”

Nothing sucks more than the moment during an argument when you realize you’re wrong.

I wonder if somewhere in Africa there’s a zoo with a main exhibit titled “Raccoons!”