

Anna and Derrick Gaines on a date night. After Derrick suffered a traumatic brain injury, the two have rebuilt their relationship around a new and deeper investment in one another.

AN INJURY THAT ERASES SELF

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"NONE OF MY MEMORIES ARE MY OWN"

Anna Gaines (MD '08) last spoke to the man she married on the morning of June 9, 1999. Readying for the office, her husband, Derrick Gaines, donned a cream-colored suit, a bright blue shirt, and a blue tie.

"You look handsome," Anna said.

Derrick picked her up, gave her a hug, and kissed her. They were both 24 and had been married for not even two years. In college, they'd been racquetball partners at the University of North Carolina, Chapel Hill, and then friends, before falling in love—their partnership secured deeply within their admiration for one another.

That morning, they spoke via cell phone as Anna tailed Derrick's Camry to the Pennsylvania Turnpike. She could see him talking to her through the rear window of his car. They'd been discussing their future. Anna—who'd graduated Phi Beta Kappa from UNC in three years—planned to apply to medical school. Derrick—who'd distinguished himself as one of a couple hundred high school students selected for the accelerated North Carolina School of Science and Math and had been offered several academic scholarships—hoped to get his doctorate in physical therapy. They both wanted children.

"I have a lunch meeting at noon, but I should be back in the office at one," Derrick said and hung up.

The memory of those last moments within the shared vision of their past and future as a couple is precious to Anna. Now, she alone carries their history, their vision. Derrick cannot remember any of it. Nor can he remember the truck tire that hurtled through his windshield as he was returning from his lunch meeting, or the subsequent six months he



By viewing snapshots repeatedly, Derrick has been able to rebuild some of his own history and the experiences he and Anna have shared.



spent in hospitals and rehabilitation facilities recovering from the severe traumatic brain injuries (TBI) he suffered during the resulting crash. He cannot remember their racquetball games, the letters he wrote Anna every day when they spent a year apart, their wedding, their married life before the accident, or even their experiences together during the 11 years since.

The truck tire struck Derrick in the head and chest and knocked him unconscious before peeling off the roof of the Camry. The car spun across the median and collided, head on, with another vehicle. Derrick's heart stopped. His brain began to suffocate.

He was flown by emergency helicopter to Allegheny General Hospital. When Anna arrived, he was strapped to a gurney, covered in blood, and comatose.

"Please," she said to the doctors, "do everything you can. He is such a special man."

Derrick had suffered diffuse axonal injury, the shearing and tearing of delicate conducting filaments that transmit signals from neuron to neuron; multiple focal contusions, bleeding into brain tissue; and anoxia, cell death from lack of oxygen. The impact also broke his right scapula, right leg, and several ribs and shattered his left hand. Over the next few days, the swelling and bleeding in his brain destroyed yet more tissue. Anna and Derrick's parents stood at his bedside and prayed for his life.

Three weeks after the accident, Derrick's eyes flickered open for the first time.

Four weeks after the accident, Anna realized Derrick didn't know who he was.

Eleven years later, there is little evidence of the trauma to Derrick's body—a V-shaped scar on the right side of his head, a few others elsewhere. His physical person is almost fully functional. But there is also little evidence of the man Derrick Gaines was before the accident. His neurons are wired differently; his brain functions differently. Derrick and Anna have reconstructed his person.

In the six months immediately following the accident, Derrick spent 12 hours a day with Anna and various teams of rehabilitation specialists relearning how to swallow, walk, speak, eat, groom, go to the bathroom, read, and use ordinary objects. He progressed in minute steps. Derrick's procedural memory remained intact. He could learn—memorize—by repeating tasks over and over until they became reflexive. Instead of hitting "save," committing information to his hard drive, he had to wear a groove into a record.

As he healed, Anna waited for her Derrick to recognize her. He recovered core autobiographical information: He had a brother; he was from North Carolina; he was born on July 30, 1974. Later, he seemed to know the faces of his mother, his father, his brother, and his college roommate. Though he couldn't remember their names or their shared experiences, he retained these deep emotional connections.

But Anna remained anonymous to him, a nameless woman with whom he had to be reacquainted each day—until he began to understand, vaguely, that she was his primary caregiver.

"Hey, girl," he'd call to her. "What's your name?"

Then he began to call everyone "Anna": his mother, his therapists, his brother. Everyone except Anna.

She gave up waiting for him to remember her and began waiting for him to accept the stories







OPPOSITE PAGE AND ABOVE: Derrick and Anna at home with their three children: Justin, 7, Mariah, 5, and Sean, 3. Parenthood has brought more chaos and love into the couple's lives. "The kids are such a blessing," says Derrick. **RIGHT:** Anna at work in UPMC's Rehabilitation Institute based at UPMC Mercy where she often sees patients who've suffered traumatic brain injuries. Anna notes, "I know the current-day 'snapshot' of my life with Derrick is nothing like the typical outcome of severe TBI in a young adult. Our success has been very hard fought, and the road continues to be very fulfilling, albeit anything but smooth."



Anna has learned that rehabilitation requires faith, hope, and the ability to understand that one's beloved may not return.

she and his family were telling him about his life. Ritually, almost every waking hour, Derrick, Anna, and Derrick's doctors would review his information from the front page of his orientation log: *He was Derrick Gaines. He was 25 years old. He was married.*

Three months after the accident, he responded to his name.

Four months after the accident, he began using Anna's name correctly.

In December, after half a year in various brain injury rehabilitation centers, Derrick and Anna returned to their house. With the help of ReMed, a community-based brain-rehabilitation program, Anna tried to re-integrate Derrick into their home life. He needed supervision at all times. He believed he was 14, his home was North Carolina, and Anna was just some woman preventing him from returning there.

He still needed to fill in blanks. Four times a day, Anna helped Derrick complete his new orientation log: *My name is Derrick Gaines. I am 25 years old. I am married. . . .* Photographs of him as an adult distressed him. He had no sense of life portrayed by the images. When Anna played a video of their wedding, he left the room. "I don't remember that," he said. "I don't believe it."

A year after the accident, Derrick accepted that he had a brain injury.

A year and a half after the accident, he accepted that Anna was his wife.

But their relationship felt neither tender nor unified. Derrick fought Anna as she helped him dress in the morning. Like many TBI patients, he was often aggressive and inappropriate. These acts were not conscious. Derrick had yet to relearn to control his impulses, and he was often agitated by his limitations.

Additionally, Derrick couldn't remember conversations from one hour to the next, even important conversations, like when Anna wanted to know whether he still wanted to be a parent, or whether she should go to medical school. The man she'd married had wanted children and wanted her to become a doctor. She assumed those sentiments still prevailed within Derrick. He said yes more often than not. So she applied to medical school, and they conceived.

As Derrick's schedule and routines were disrupted by Anna's pregnancy and their move to a house near the University of Pittsburgh, he became more agitated. Anna realized she could not keep them both safe. She moved him into a residential brain-injury care facility near their new home, feeling as if she'd lost her husband again. Their baby, Justin, was born May 23, 2003. In photos, Derrick grins at his newborn son. But Anna had to decide whether Derrick could handle the unpredictability of being a parent. She consulted his doctors. She prayed.

"I have never lost my appreciation for who Derrick was," Anna says. "He was awesome. I loved him even though he wasn't who he had been. And I saw hope in who he was becoming."

From the start, Derrick loved Justin. Fatherhood gave him something to identify with—other than being a brain-injured man. Derrick couldn't remember the birth, but he knew from photos that he'd been there. He worked to develop strategies that would allow him to control his impulses; and, slowly, he integrated into their new life.

Eleven years after the accident, Derrick drives, plays basketball, reads bedtime stories to his three children and helps get them ready for school, does laundry, and vacuums the house—though he can't remember where to put things back when he's done (and jokes about this at times). He volunteers at Children's Hospital of Pittsburgh of UPMC as a chaperone at the sibling center and at Pitt's Department of Physical Medicine and Rehabilitation's research program doing data entry. He jots down notes of important events in his log book and repeats stories aloud again and again, trying to carve them into his memory. His every task is scheduled on a planner that he and Anna compose, and he navigates his world using instruction books that Anna has compiled with him. Every day, Anna creates new systems in which Derrick can achieve, and every day, Derrick engages. Although negotiating that structure still challenges their marriage, their partnership has been re-formed with new intimacy around the injury they've survived, and they continue to survive, together.

"I can't rely on my brain," Derrick says, "I can't do all the things I could do before the accident, but I can do a few things very well. I like that. I like doing things to help Anna. I am lucky that she stayed with me. And the kids are such a gift. I love where we are."

He can recount many of his stories, having heard them enough times that he can retell them, but he hesitates. *Did that happen?* Then he turns to Anna for confirmation.

"It's sad sometimes. I can't tell if I remembered something or if Anna told me. None of my memories are my own. They've become memories of mine since they are from people I trust. But what about all those little things that only I would know about? I don't have anyone who can give that back to me."

Anna graduated from Pitt's med school and is now a third-year resident in physical medicine and rehabilitation at UPMC, where she often counsels families affected by TBI. From her own encounters with rehabilitation, she knows that the most difficult work comes when patients leave the hospital and enter a chaotic society where they appear deceptively uninjured. Rehabilitating someone within that world is a delicate, unending process unique to each injury and each brain.

"The idea of the Self is at the heart of rehabilitation—the most extreme example being patients with acquired brain injuries involving memory deficits—because the Self is a plastic thing," says Margaret Reidy, an MD and president of the UPMC Rehabilitation Network. Reidy, formerly a physician of Derrick's, encouraged Anna to enter the field of rehabilitation medicine. "In rehabilitation, you get to see the human condition at its most desperate and its most graceful—as in 'Amazing Grace.' Derrick is having a life he easily might not have had. He and Anna are lucky to have found one another."

Anna has learned that rehabilitation requires faith, hope, and the ability to understand that one's beloved may not return.

"It's different now, after 11 years," she says. "Derrick, at some point, transitioned into feeling love. He started caring about me; he started caring about his future. Even though I remember how I felt with Derrick when we got married and in those early years, I don't look for that in Derrick anymore. I did go through periods of time when I had to let myself grieve the loss of that relationship so that I wasn't expecting something unreasonable from Derrick now."

The couple sits at their kitchen table, Derrick smiles, crooking the right corner of his mouth higher than the left. Anna smiles back. "You used to smile that way before the accident, when you were saying something funny."

"Really? I don't remember that," says Derrick. Then he listens as she tells the story of how he proposed to her. If she repeats it often enough, it will become his story, too. ■