

BALANCING ACT

▶ 1-2%
Percentage of people who fully recover from a brain injury like Alex Fear's



ILLUSTRATION BY GETTY IMAGES

Alex Fear walked a tightrope between life and death but **survived a traumatic brain injury** with tenacity and steadfast, superior care

BY HOLLY COOPER FORD

Alex Fear has no memory of the accident. One minute he was at a party, sitting on a window ledge, enjoying the company of friends. The next minute, he was waking from a coma, unable to speak. Fortunately, in those many minutes in between—more than 50,000 of them—Alex had people close by who were determined to save his life.

Nineteen-year-old Alex fell from that second-story window, landing on the concrete below, fracturing his skull and losing consciousness. Alex's condition was so severe that paramedics quickly transferred him from a nearby Harrisonburg hospital to the UVA Nerancy Neuroscience Intensive Care Unit. The unit is specially equipped and staffed 24/7 to care for patients like Alex with serious neurological injury.

"When Alex arrived at UVA, he had a severe brain injury," says UVA Health neurosurgeon Mark Shaffrey, MD. "The percentage of people who make a full recovery from an injury like that is small, probably 1 to 2 percent. Considerable deficits or death were real possibilities at that point."

Alex's parents, Chris and Brian, of Broadway, Virginia, got the call from a police officer notifying them about the accident after midnight on March 17, 2019. "When we saw Alex, he was unconscious," Chris says. "He had on a neck brace. There was a bolt in his head. We were stunned. Scared and stunned."

Alex was in a medically induced coma to limit the demands on his brain. As the Fears quickly discovered, the greatest risk of a traumatic brain injury is not necessarily the injury itself. It's the effects that follow.

"The initial damage that occurs at the time of the fall is the primary brain injury," says clinical nurse specialist Dea Mahanes, RN, DNP, a doctor of nursing practice. "But then there is a risk of secondary brain injury, a complex cascade of changes that happen in the brain—including swelling and bleeding—that can cause increasing damage."

To minimize this risk, the UVA neurocritical care team focused first on managing the pressure inside Alex's skull. They gave him medications to reduce brain swelling and kept a close watch on his oxygen levels.

FIGHT OF HIS LIFE

But just days after arriving at UVA, it became clear to Alex's care team that brain injury was no longer the only concern. Alex developed acute respiratory distress syndrome, a severe and dreaded lung condition that causes fluid buildup in the lungs and compromised respiratory function.

"When the lungs don't work, carbon dioxide levels go up, and that causes increased pressure in the brain," Mahanes says. ➔





“Being in the hospital, seeing others who were having a more challenging time recovering, changed my outlook. This experience made me want to help other people.” —Alex Fear



“Alex’s brain and lungs were really fighting against each other. It took a lot of creativity, people putting their heads together, to provide the best treatment.”

Adds Dr. Shaffrey, “We walked a tightrope for weeks between those two systems. It literally took minute-to-minute care in order to navigate our way through.”

Right alongside the doctors, nurses, respiratory therapists and others with Alex day in and day out were Chris and Brian. They saw their muscular, hardworking son grow frail—dropping from 172 pounds to 116—and struggle to breathe. “When his lungs started to go, things took a turn for the worst, and I knew it could go either way,” Chris says. “As a parent, you aren’t really sure what’s going on. The UVA team was great about including us in daily rounds, explaining to Brian and me what was happening. This knowledge gave us confidence, and prayer gave us hope—that’s what really sustained us during that time.”

TURNING POINT

After weeks of nonstop efforts to find a balance between the demands of his brain and the limitations of his lungs, Alex

miraculously turned a corner. His breathing improved, and his brain pressure stabilized. His body was rebounding, but his brain function was still uncertain.

Alex couldn’t speak when he awoke from the coma. He used a whiteboard and a marker to communicate, making scribbles at first. But soon, the scribbles became words. Not long after that, Alex was sitting up and walking. From then on, his recovery progressed quickly.

Today, 21-year-old Alex is back to school and his part-time job. And he’s working toward a new future. “Being in the hospital, seeing others who were having a more challenging time recovering, changed my outlook,” Alex says. “This experience made me want to help other people. I hope to become a physical therapist.”

For the care team at UVA, this experience gave them hope. “When you consider that one thing could go wrong—a period of one hour in 1,000 hours of care could change the course of Alex’s life—it’s truly a testament to this team’s abilities,” Dr. Shaffrey says. “It goes to show you, if given the right circumstances and right amount of support, that recovery is possible.” ●



Mark Shaffrey, MD, UVA Health neurosurgeon



Dea Mahanes, RN, DNP, UVA Health doctor of nursing practice

Emergency Department Expands Its Capacity to Serve

A Level I trauma center caring for nearly 65,000 people each year, the UVA Emergency Department provides a critical link to healthcare for the local community and the region. The new University Hospital expansion, which opened its doors in October, tripled the ED footprint, from 15,000 to 45,000 square feet. This new space was thoughtfully planned and designed to include improvements that allow caregivers to provide patients like Alex Fear (featured at left) the most efficient and advanced care possible. Some of the highlights of this ED expansion include:

➔ **CONVENIENT IMAGING SERVICES** to ensure rapid treatment of patients with stroke, heart attack and other emergency conditions

➔ **KID-FRIENDLY SPACE** where children have a separate lobby, and there are emergency specialists to oversee an expanded area just for younger patients

➔ **SECOND ROOFTOP HELIPAD** for medevac helicopters, to ease emergency patient transport

View a slideshow of the UVA Health Emergency Department expansion at uvahealth.com/new-ed.