



Fountain Valley Regional HOSPITAL & MEDICAL CENTER

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Against All Odds: Sickle Cell Patient Survives Through Life-Saving Measures

Charon Simmons is an extraordinary young man who has beaten the odds---not once, but all his life. No battle was more important, however, than the life-threatening shut-down his body endured last September---and his subsequent dramatic recovery.

Twenty-three year-old Charon was diagnosed with sickle cell anemia when he was five years old by doctors at Fountain Valley Regional Hospital (FVRH). His mother, Star, had taken young Charon to other doctors near her home in Mission Viejo, but they repeatedly misdiagnosed him. Sickle cell anemia is a relatively rare blood disorder that affects primarily African Americans. South Orange County is a predominately Caucasian community, so doctors there had little experience with it.

“When Charon was diagnosed, I felt the need to find a way to educate people about this disease,” Star says. Charon’s younger sister is also afflicted with sickle cell anemia. Star and her husband Elliott established the Sickle Cell Foundation of Orange County in 2006 to provide education among those who are dealing with the physical, mental, emotional and psychological complications of Sickle Cell Disease.

It was in finding a correct diagnosis over a decade ago that Star also found the team who saved Charon’s life last September. That was when, after suffering through years of pain management necessitated by his disease and managed by doctors at FVRH, Charon’s body began to shut down. Charon had been admitted to the hospital for pain management the day before he took a turn for the worse. “During a sickle cell crisis, the red blood cells burst,” explains Dr. Moises Carpio, Medical Director of the Intensive Care Unit. That set off a cycle of dangerous bodily responses in Charon. In his case, 95 percent of his red blood cells burst, leading to acute kidney failure and a potassium imbalance. The result was cardiac arrest.

During the first Code Blue, Charon’s heart stopped for over three minutes. He was revived only to suffer another code that lasted 13 minutes. His doctors again resuscitated him but feared brain damage from the lengthy stoppage of his heart. They immediately ordered a treatment that could save Charon’s brain—and his future.

Through a new treatment called hypothermia, doctors slowed the progression of any damage that may otherwise have impaired the recovery of Charon’s brain function. Hypothermia involves cooling a comatose patient’s blood using a catheter that circulates a loop of cold saline solution, effectively reducing the body’s temperature to 91 degrees. Patients are sedated for the 24 hours

the treatment is used. Because of his blood disorder, his physicians placed Charon on a form of dialysis called Continuous Renal Replacement Therapy, also a state-of-the-treatment. That allowed them to transfuse Charon with healthy blood over a period of days. During the course of his crisis, he required 35 units of blood. LifeStream, FVRH's blood products partner, was able to meet the critical demand for the blood that once again saved Charon's life.

"Most sickle cell patients require maybe two or three units of blood during a hospital visit, at which time they feel better," notes Dr. Diane Eklund, Medical Director for LifeStream. "In Charon's case, he was not ready to leave the hospital until he had received 35 units." According to Dr. Eklund, it is impossible to predict when such large volumes of blood might be needed for an emergency situation, such as in the case of Charon's hospitalization. "Having blood on the shelf in advance of the emergency, ready to use at a moment's notice, is always important. Blood donors are critical to making that a reality."

Charon was on life support for 12 days and in a coma for much of that time. Doctors cautioned Star that Charon might not survive. Still, she never wavered in her belief that her son would walk out of FVRH. When Charon's spleen stopped functioning and had to be removed, Star continued to tell his doctors she had faith in their excellent care and that her son would recover.

"I remember thinking, 'I hope you are right,'" Dr. Carpio now says. "As doctors, we are scientists and we know the likely outcomes. But we are always hoping for the best."

No one can say for sure that hope and faith turned the tide for Charon. But Star is adamant that the sophisticated medical care he received at FVRH certainly brought her son back. "When Charon woke up from his coma, he had normal brain function," she marvels. "I never gave up faith. I believed in Charon's doctors and I believed that God had a miracle in store for Charon." It turns out she was right.

Today, Charon is at home and walking with the aid of a brace. He plans to return to the criminal justice program he was attending and eventually go into law enforcement. "It was very gratifying for all our staff to see that young man wake up and the happiness of his mother," Dr. Carpio notes. "Everyone who cared for Charon, our doctors and nurses, celebrated that."

Although the odds were against Charon, with the vast medical expertise of his physicians and advanced technology at their disposal, today he is a walking testament to the power of faith in good medicine.

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