Lesson Learned

On the worst day of their lives, a patient's family teaches a new nurse ber first and best lesson. By KATHLEEN STEPHENS

URSING SCHOOL DID NOT teach me how to be a nurse; it taught me nursing. There is a difference. In school I learned how to draw blood and start an IV. I learned how to guide a nasogastric tube through a nostril and into the stomach, avoiding the intersection into the lungs.

I learned about anatomy, body chemistry, microbiology and pathophysiology. I learned lots of categories of pharmaceuticals, but I didn't learn to be a nurse. That came later, and more slowly. I learned it from other nurses, both good and bad (it is said that nurses are the only humans who eat their young). But mainly I learned it from my patients.

My most important lesson in How to Be a Nurse came very early in my career. I was green, not yet out of school, working in the emergency department as a summer nursing extern, over my head and scared to death. I was afraid of doing something wrong and hurting someone, but mostly I was afraid of looking as inexperienced as I felt. My new badge proudly proclaimed my name and my credentials, right where everyone could see it. I wore crisp scrubs, white running shoes, and a stethoscope around my neck. I looked professional and competent, even if I didn't feel it, and I was desperate to act professional, too.

That was before I met the Collins family. The call came over the radio that the Life-Flight helicopter was bringing in Michael Collins, a 54-year-old from an outlying county who had been unloading firewood when

the load shifted. He was buried under a pile of lumber for 30 or 45 minutes before his sons were able to dig him out. It looked bad, with CPR in progress on board the helicopter. He arrived, and the medical team sprang into action. As a lesser member of the team, my responsibilities were clearly defined and I was able to perform them all in a competent and professional manner. Mr. Collins looked like he was sleeping, with very few marks on his body, but the internal damage was tremendous. He was taken to the third floor for surgery, which we all realized was not going to save him, but the optimism and arrogance of modern medicine said we had to try.

But he was gone from my department, and I went back to my work. I had nearly forgotten Mr. Collins when his wife and two sons arrived an hour later. I went with the charge nurse to a small conference room to give them an update on his condition and directed them to the surgical waiting room. The sons were young men in their 20s, still wearing work clothes similar to what I had cut off their father's broken body. They stood protectively on each side of their mother, as if their solid presence could ward off the harshness of the words they were hearing. She was trembling but dry-eyed, the three of them together still blessedly enveloped in the numbing cloak of shock and disbelief.

I, to my shame, was the only person in the room crying. I tried desperately to stop the tears. The furious voice inside my head was hissing. "You are a professional! Snap out of it! Stop it right now! Nurses don't cry! Detach!



Detach! Detach!" But I looked at the confused woman clutching the arms of her two brave sons, and I could see hurt and devastation, fear and loss dawning in all of their eyes, as the words sank in. I thought about how three hours earlier they had all been home, the three men working outside together, the woman probably cooking dinner for her three hungry boys, preparing to fuss at them for tracking dirt onto her kitchen floor. The sun was still shining outside on the beautiful cool Sunday afternoon, perfect for chopping wood. But the Collins family of four now consisted of one member fighting a losing battle for his life on an operating table, and three members huddled together in a bare conference room, hearing hard truths from a nurse with a sob in her voice and a runny nose. Their lives were forever changed, and they would change mine.

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I finished my 12-hour shift ashamed and disgusted with myself for letting my professional mask slip. Never again, I promised. What must they have thought of me? A poor excuse for a nurse, I berated myself. As I was finishing up my charting and getting ready to go home, I was surprised to see the Collins family come back into the ER. Mrs. Collins' eyes sparked with recognition when she saw me, and the family walked purposefully across the room toward me. Dread iced my mind

and my heart. What could they want with me?

Mrs. Collins took both my hands and held them. She wanted me to know how much she appreciated seeing the tears in my eyes when I had talked about her husband. He never made it out of the OR, of course. She said her sons had waited for a couple of hours before the doctors had admitted defeat, and then there were phone calls and arrangements to be made, so six or eight hours had passed since she'd seen me. But she had been com-

forted during that time by knowing that he was being cared for by real people, people who cared, people who cried. I was deeply touched that she went so far out of her way on this horrible day, to come back and look me up, to thank me for caring for her husband. "For not being a robot," she said.

Mrs. Collins taught me my first and best lesson on How to Be a Nurse. She taught me that nurses do cry.

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Off the field, Cutler is majoring in human and organizational development through Peabody College. "It's been a positive experience," he says. "It leaves so many doors open because you can do just about anything with it." He can graduate in May if he chooses, or stay around for his final year of eligibility. "A lot depends on how this year goes. I'm not sure what I want to do with my career yet. Right now I'm just worried about this football season, and I'll take it step by step."

In his first intercollegiate game, the job of starting quarterback was a unique experience. Vanderbilt had to rely on a number of freshmen and sophomores to carry the game. "It was crazy," he recalls of his first start at Georgia Tech. "There was so much stuff going on. You're so anxious, and before you know it the game is on. A lot of young guys were playing in that game, and it was a mess. We got pounded pretty good (3–45). But it was something we could learn from. We've only

gotten better since that day."

As one of the team's captains, Cutler leaves the locker room early during a game for the coin toss. "We give our parting words as we're leaving," he says. "They start getting amped up and a little rowdy in there." After the coin toss, it's all business. "It's time to go. We throw some balls and get warm again. The butterflies start hitting me about then. You get the kickoff, the first play, and we're off."

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solid electrolysis cell for more breakdown, and the carbon monoxide is removed and stored. The oxygen can be used for fuel or breathing, while the carbon monoxide can be used for fuel or in the production of hydrocarbons and plastics.

This process to transform Martian atmosphere into oxygen for breathing and carbon monoxide for fuel has been the result of a research collaboration involving LeVan and his Ph.D. graduate student Krista Walton, the University of Arizona, and NASA's Ames Research Center in California. Vanderbilt's part of the work is the third stage, where carbon dioxide and carbon monoxide are separated using a process called "adsorption." In adsorption, the molecules of a gas or liquid are made to stick to the surface of a solid but porous material, causing a filtering effect. Using a crystalline aluminosilicate known as zeolite, LeVan and Walton have been able

to adsorb CO₂, allowing CO to pass through.

"We've been looking at a few different zeolites," he says. "They all work pretty well. But what we want is one that adsorbs CO₂ strongly and doesn't adsorb CO."

The Martian atmosphere work is only part of LeVan's ongoing research. For NASA he's also working on improving trace-contaminant control systems and carbon dioxide removal. "This is what keeps spacecraft-cabin air clean," he says. "If you saw the movie 'Apollo 13,' that was the problem those astronauts were having: CO₂ levels were getting too high in the Apollo capsule."

Currently, NASA funds about half of LeVan's research to the tune of about \$150,000 annually. In addition, he is doing basic research funded by the U.S. Department of Defense on adsorption of toxic industrial chemicals and trace-contaminant control for military and nonmilitary uses.

LeVan's research on adsorption processes began in graduate school at the University of California at Berkeley. Early in his career he focused on removing petroleum-based dry-cleaning solvents from the air with activated carbon. His work with NASA began in 1993 when he was still with the University of Virginia. "NASA found me," says LeVan. "I think they recognized that I knew a lot about what they were interested in, which was removing trace contaminants with carbon and humidity effects on those materials."

Hired as chair of the chemical engineering department, LeVan came to Vanderbilt with the idea of building on the department's strengths to create a department of truly national stature. It appears he has made substantial progress. Research funding for the department is now 14 times what it was before LeVan took over as chair. New faculty and increased numbers of graduate students have