

Every year a place dedicated to healing is also the terminus in the lives of more than a thousand patients. For Vanderbilt doctors and nurses, death is a common occurrence but never routine.

After Death

By JOHN HOWSER

At a cemetery near campus in May, the families of babies who were stillborn at Vanderbilt University Medical Center and babies who died shortly after birth during the year gathered for a memorial service. Nurses read poems, and Dr. Frank Boehm, professor of obstetrics and gynecology, offered his condolences and conveyed the feelings that physicians and nurses experience each time there is a loss.

The annual memorial service, arranged by Vanderbilt bereavement liaison Jane Alger and the Rev. Raye Nell Dyer, honors the loss suffered by those families who chose to allow VUMC to handle the disposition of their babies' remains. This year approximately 90 family members attended VUMC's memorial service, and 85 names were read.

A gravestone funded by the Vanderbilt Women's Auxiliary marks the plot for these burials, which appropriately reads: "In Memory of Those Little Ones Who Have Gone Before, Our Hearts Are Filled with Your Light Forever More."

Death is an inevitable component at any hospital. In 2003 there were 1,122 deaths at Vanderbilt University Medical Center—babies, teens, middle-aged men and women, senior citizens. Each month an average of 90 to 100 patients, or about three a day, die from a variety of causes.

Bereavement liaisons like Alger, employed by the admitting office, are responsible for managing the disposition of all of VUMC's bodies. During her seven years at Vanderbilt, Alger has seen to the disposition of thousands of deceased.

"Dealing with death every day can be challenging at times. You have to be strong and somewhat comfortable with death in order to do this job," Alger says. "No one knows what to do when there is a death. Most of the time families have not dealt with the death of a loved one before. They have every question you can imagine and need to know what to do next. If you can give them some guidance, direction, and make it easier for them, you are providing a tremendous service for families at a time when they are the most vulnerable. It is a privilege to help anyone in this time of need."

In addition to working with grieving family members, Alger coordinates with multiple agencies, organizations and funeral homes. Her job requires frequent interaction with Tennessee Donor Services, the Red Cross, the Davidson County Medical Examiner's Office, various law-enforcement agencies, the U.S. Army (in cases of death of military personnel based at Fort Campbell, Ky.), and dozens of funeral homes throughout Middle Tennessee, Southern Kentucky and Northern Alabama.

What Happens When Patients Die

When a patient dies at VUMC, nursing staff are required to make two phone calls—one to Tennessee Donor Services, and the other to Alger or an on-call bereavement liaison. The call to Tennessee Donor Services is required by law, for the purpose of soliciting badly needed organ and tissue donations. A representative from Tennessee Donor Services makes the request to families of the dying or deceased for organs and tissue.

By now most everyone has heard of, or known, living examples among us who are

the benefactors of organ donation. Hearts, lungs, livers, kidneys and the pancreas are all harvested for transplantation whenever possible. The deceased also can donate skin, corneas, bone, eyes and heart valves to benefit the living.

Alger or an on-call bereavement liaison is contacted around the clock because of numerous legal and logistical issues associated with death. Coordinating a request for an autopsy from a family, obtaining funeral home information, and screening deaths that may fall

After death is pronounced, a number of different dispositions can occur for the body. The questions of autopsy and organ or tissue donation are addressed, then typically a body is quickly moved to one of VUMC's two patient morgues.

under the jurisdiction of the medical examiner are just a few of the responsibilities of the bereavement liaison.

If a deceased patient has any history of being a victim of violence, falls, other types of trauma, accidental injury, or of a drug overdose, the medical examiner's office is contacted about the death.

After death is pronounced, a number of different dispositions can occur for the body. The questions of autopsy and organ or tissue donation are addressed, then typically a body is quickly moved to one of VUMC's two patient morgues, both operated by the hospital admitting office.

There are actually three working morgues within VUMC. One of them, the original morgue, now known to longtime employees as "the old morgue," is located within the basement of Medical Center North.

The MCN morgue dates back to the building's origins in the 1920s and was in active use for all of Vanderbilt's deceased until a new morgue opened within the Vanderbilt Clinic in 1988. Now the Medical Center North morgue is strictly for use by Vanderbilt's Anatomical Donation Program. Only the deceased who donate their bodies to medical science wind up here.

The Vanderbilt Clinic's morgue, located in the basement, is now the Medical Center's primary morgue. A set of nondescript double doors along a back hallway conceals what lies within.

Just inside the doors is a small reception area about 8 feet deep and 20 feet wide. The area contains a small table with a morgue book for recording who claims a body and when, along with a larger white table standing waist high. At one end of the morgue's outer room is a small, white, chest-type refrigerator designated with a red plaque marked "Fetal Remains."

At the rear and to one side of this outer room is a large metal refrigerator door typical of those in an industrial cold-storage facility. This opens into the cold-storage area for bodies. Inside, the air, which is kept near freezing, is humid and dank even though it's being blown about by large refrigeration fans. The room itself is about 20 by 20 feet with a low ceiling about 7 feet high. The walls are made of a shiny, stark, white plastic material. The floor is gray concrete with a large drain in the center. The heavily refrigerated room contains about 10 metal gurneys, but could hold twice that many if necessary. Typically, TVC's morgue never houses more than four or five bodies at one time.

The new Vanderbilt Children's Hospital is equipped with its own small morgue. Following the theme throughout the entire facility, the VCH morgue is configured differently to be family oriented. A large open room contains two stainless-steel refrigeration units and one freezer. The refrigerators are equipped with long, narrow doors that open horizontally to expose shelves inside that run the entire length of the refrigerator's interior.

Within the VCH morgue, which has a separate climate-control system from the refrigeration units to make the room temperature comfortable for families, are two well padded

chairs and a comfortable couch for use in time of grief. The room's family friendly features belie an atmosphere of the loss of so much promise.

Learning from Death

By now most Americans are somewhat familiar with the art of medical autopsy, or at least think they are, through popular TV programs like "CSI," "Law & Order" and "Crossing Jordan." These programs show forensic pathologists as glamorous detectives for the dead, working all hours of the night and day to crack the big case.

While some of VUMC's pathologists may themselves be glamorous, the job at times may not be. In addition to autopsies, pathologists at VUMC have other responsibilities leading to long work hours. They try to conduct most autopsies during semi-normal work hours, but exceptions are possible. Autopsies for deceased individuals who expire from a disease where findings are time-sensitive, such as metabolic diseases, or when a family's religion requires a quick disposition so the body can be buried appropriately to their faith, can require the pathologist to work late into the night.

The word "autopsy" literally means "seeing with one's own eyes." Autopsies are done to determine a cause of death; confirm and/or clarify a clinical diagnosis; evaluate new tests, procedures and therapies; and to monitor environmental influence on disease.

An autopsy includes an external examination of the body, the examination and dissection of internal organs, and microscopic examination of cross-sections of organs and tissue. An autopsy also can include special studies such as microbiological or cytogenetic procedures, analysis at the molecular level, and possibly even toxicology tests.

According to Dr. Jean Simpson, professor of pathology and director of the Division of Anatomic Pathology, autopsies provide such benefits to medicine as monitoring the quality of care, enhancing the accuracy of vital statistics, and contributing to medical education and research.

National trends have seen a decline in the

number of autopsies performed during the last three decades. "In 1961 the autopsy rate in the U.S. was about 45 percent," Simpson says. "In the U.S. right now, the rate is about 5 percent. There was a time when the autopsy rate in teaching hospitals was 75 to 80 percent, or perhaps even higher. That number has steadily declined."

Simpson says several factors have led to the decline in the number of U.S. autopsies. "Families have the idea sometimes that the



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patient has suffered enough, and that the autopsy would bring additional trauma," she says. "Although, most family members, if they are approached appropriately and have an understanding of what an autopsy can do for them, will consent."

Autopsy can provide certain benefits to family members, such as providing certainty of the cause of death, alleviating feelings of guilt that something else could have been done, possibly uncovering a contagious disease, or perhaps even leading to the discovery of a hereditary disorder.

"There is a decline in autopsy from the clinician's perspective because of more and

more diagnostic tests. This provides a clinical bias that everything is already known about the patient," she says. "Also, because the clinician has a relationship with the deceased patient's family, that can make it difficult to ask for autopsy consent at the time of death."

Repeated studies have proven that a statistically significant number of autopsies leads to the discovery of unsuspected findings upon a patient's death. Sometimes an autopsy can discover a major misdiagnosis of disease.

More frequently, autopsy leads to the discovery of minor misdiagnoses or secondary diseases that also may have contributed to a patient's death.

"There are problems with pathologists themselves," says Simpson. "Outside of teaching hospitals there isn't much interest in doing autopsies. There is no compensation for doing an autopsy. Not only are you not generating income when you're doing an autopsy, but it could be taking you away from another activity that could be generating income."

Another reason for the decline in U.S. autopsy rates includes the fact that many medical schools have de-emphasized the need for the procedure. Also, in 1971 the Joint Commission for Accreditation of Healthcare Organizations (JCAHO) eliminated autopsy requirements for continued hospital accreditation.

Forty-one percent of the patients who die at VUMC have autopsies performed on them; however, only 11 percent of those patients are autopsied on site. The reason so many bodies are autopsied elsewhere is that a high percentage of VUMC's deceased qualify as cases for Davidson County's medical examiner. Being Middle Tennessee's only Level 1 Trauma Center leads many critically injured accident victims and victims of violence to VUMC to die or to be pronounced dead on arrival.

Simpson says any patient of VUMC who fits the acceptance criteria can receive an autopsy free of charge. The acceptance criteria require that the deceased individuals expired at Vanderbilt University Hospital or Children's Hospital, were outpatients who have been followed regularly in VUMC's clinics, or were patients recently hospitalized at VUMC for whom

there is a good clinical history.

Those who may not be autopsied at VUMC include victims of homicide or suspected homicide, patients who are dead on arrival who don't meet the acceptance criteria, patients who die in the Emergency Department before receiving a workup (series of diagnostic tests) or therapy, victims of sudden infant death syndrome (SIDS), and other cases that fall under the medical examiner's jurisdiction until released by the medical examiner. In a given year, as many as one-third of VUMC's deceased meet the criteria to be autopsied by the medical examiner's office.

While Simpson says she's not familiar with the numerous popular TV programs that prominently feature her profession, she is aware of their existence and is sure they shape the public's perception of her job, and of autopsy in general.

"I'm sure television puts autopsy in a gory light with not much respect for, or perhaps callousness toward, the deceased's body," she says. "I think that turns people off to autopsy. Autopsy has such important value to the families and to medical science. We have uncovered fairly significant undiagnosed disease in patients, which I think can have significant impact on the health of other family members."

Autopsy findings also can offer excellent feedback for clinicians on new drugs, the performance of new devices, and new surgical techniques. Autopsy is vital to national health statistics and to findings impacting funding allocations for national health-care dollars to treat chronic diseases.

"From an educational point of view, if we're going to continue to have pathologists, we're going to have to train them," Simpson says. "One of the only ways to learn pathology is to do autopsies."

The Ultimate Gift to Science

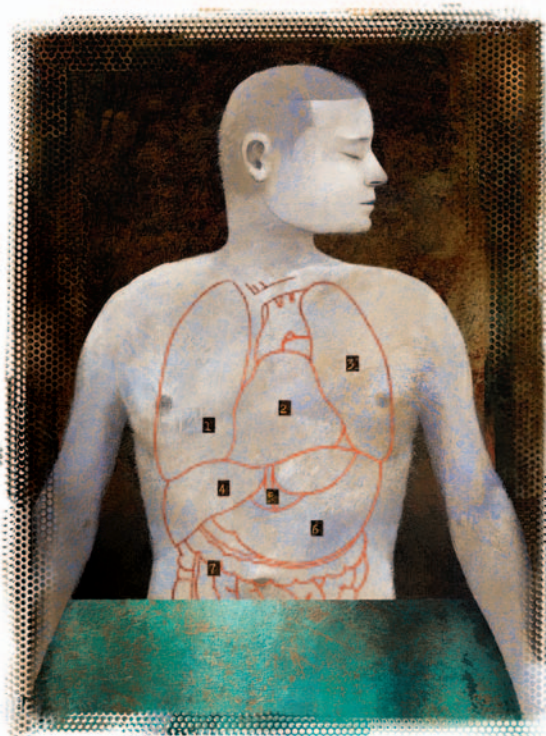
Individuals who wish to make the ultimate gift to medical science can donate their bodies for education and research. The bodies are used for necessary anatomical training of physicians and other medical personnel.

The Vanderbilt School of Medicine Anatom-

ical Donation Program is one of the most successful of its kind in the nation. Each year the program receives between 125 and 150 bodies.

Who would do this? According to Art Dalley, professor of cell and developmental biology and director of the Anatomical Donation Program, people who donate their bodies to medical science cross all income and education levels.

Dalley says people from all walks of life



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donate their bodies to VUMC. "We have people from all ranges: music industry CEOs, medical school and University faculty, people from top levels of government, Vanderbilt Board of Trust members, even surgeons who have taught here," he says. "We also have just regular folks from Nashville and the surrounding communities. We even have donors from different generations in the same family, as well as husbands and wives.

"One thing that distinguishes our program from some of the others around the country is that ours relies strictly on volun-

teerism," he says. "We are totally dependent on people wanting to come to us."

In fact, all the bodies accepted by VUMC are self-donated. This means that after a person's death, a spouse or other relative cannot make this decision on behalf of the deceased. In order for VUMC to accept a body for educational or research purposes, the decision must be made by the individual, and not while under duress. The donor also must live within the state of Tennessee. Enrollment for donation is open only from January through March each year.

"Some people believe this means they have to die during that time period," says Wanda Pope, the longtime program coordinator for Vanderbilt's Anatomical Donation Program. "We explain to them that we only enroll a certain number of people each year so that, statistically, the program meets its needs but doesn't go over. We make a commitment to return the remains to the family within two years. If we took in too many bodies each year, it would necessitate extending this time period, and we try not to do that."

"As a rule of thumb, if a body is donated during a given academic year, then it won't be used until the following academic year," says Dalley. Hence the need for a two-year commitment for the body.

January through March is the only time an individual considering anatomical donation can meet with Pope for the screening process and to be enrolled. Exclusion criteria for anatomical donors include those who must undergo autopsies, accident victims if the body is damaged, and certain disease states such as HIV, hepatitis, or certain suspected neurological diseases that can be contagious even after embalming, such as Creutzfeldt-Jakob disease.

Dalley and Pope both marvel at the deep love and commitment donors feel toward Vanderbilt. "These people *love* Vanderbilt. I mean, what more could you do?" Pope asks. "They are very, very loyal."

Dalley says some donors have remarked that donating their bodies fulfills a wish they had to attend medical school.

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The dying woman had four wishes. She was at the end stage of a terminal disease and was brought to Vanderbilt University Hospital for what everyone knew would be the last time. Julie Foss, the unit manager for the hospital's Medical Intensive Care Unit, remembers her well.

"She told the staff and physicians she had four wishes," Foss says. "One wish was not to be treated aggressively." The attending physician concurred with the patient's wish, so he added "Do not resuscitate" to her orders.

"Her second wish was to be kept comfortable, so appropriate pain medications were ordered and given," Foss says.

"Her third wish was that she didn't want to be left alone," Foss says. The MICU's charge nurse and house staff made arrangements to reallocate their schedules so someone could be in the room with the patient at all times to honor this wish.

"The patient's fourth wish was to hear gospel music," Foss says. "This was in the middle of the night. We had no CDs or tapes of gospel music around.



Of DEATH and DYING

We had a medical receptionist with an exceptional voice, so she and several of the staff sang gospel music to the patient. She died shortly afterward."

The MICU staff was able to honor all the patient's wishes and help her to a peaceful death, even though she was dying without her family around.

Compared to the overall number of patients treated at VUMC in a given month or year, the number of deaths comprise an extremely small percentage. In emotional terms, however, the impact is significant—on caregivers as well as on loved ones.

Doctors and nurses face death every day. Beneath VUMC's stated mission of education, research and patient care is the unstated goal of the entire multibillion-dollar enterprise: to alleviate suffering and defeat death.

Advances in medical science continue to lead to staggering improvements in survival rates from injuries and disease. However, even leading-edge medicine like that practiced at VUMC can't always win. With some patients it's not about fighting the heroic fight with new drugs, the latest surgical procedure or technology, but knowing when the battle is over and making the end as peaceful and comfortable as possible.

Patients in Foss' unit, the MICU, are routinely some of the sickest patients within the entire institution. Foss and her nursing staff know when the struggle is over and the end of life is near. With this knowledge, they can be of great comfort to patients and their families. "Sometimes it's knowing the right and reasonable thing to do," she says. "Honoring a patient's final wishes can offer the staff a chance to do something positive even in the face of death."

Coping with death leaves its mark on health-care workers in many ways. "I can remember vividly the death of one of the very first patients I cared for during residency at Grady Hospital in Atlanta," says Dr. Corey Slovis, professor and chairman of the Department of Emergency Medicine. "Her name was Carrie, and she was in her mid-20s. She was angry when she came in because her family had forced her to come to the hospital. She was coughing, had a fever and, as it turned out, had a pleural effusion (fluid around the lung).

"This was the first time as a physician I had done a pleurocentesis (puncture the chest cavity to collect fluid for examination). I was so happy that I

had tapped the lung, and had done it right. Out came this cloudy fluid. My resident looked at me and said, 'This is going to be trouble.' Not knowing that much then about pleural effusions, I nodded to my resident, then read about it afterward.

"No matter what we did for her, she got worse. We gave her the right antibiotics. She got worse. She went into the intensive care unit. She got worse. We had to intubate her. She got worse. And I kept thinking, This is a young, healthy woman. I didn't understand. Any tests we did hoping to find out why she was getting worse never gave us any helpful information. She had a bacterial infection and never really responded. I remember she was on the ventilator, and I was getting help from multiple specialists. She got worse, and then she died. Although she died slowly, it was still a surprise to me.

"I remember we went down to her autopsy, and as I walked into the room she was lying there. Her chest was already open. As I looked at her, she was just staring at me from across the room. Her eyes were wide open. I can remember her face vividly. She obviously couldn't talk. But she was talking to me as clearly as one could through her eyes and her facial expression. All she was saying to me was, 'Why?'

"And just as I couldn't answer her when she was alive, I couldn't answer her then. Almost 30 years later I still don't know why she died, but I can still picture her like it was yesterday."

Indeed, health-care workers bear the emotional scars of dealing with death on a frequent basis. Doctors and nurses must develop coping mechanisms to accept the loss of patients and to offer comfort to family and friends left behind.

Health-care workers begin dealing head on with death while still in school. Dr. Aaron Milstone, medical director of Vanderbilt's Lung Transplant Program, had his first experience with a patient's death while in medical school at Wayne State.

As a medical student Milstone had to go into a patient room for the first time and, in the presence of the patient's spouse and a large group of family members, confirm the death of a woman who had died rather suddenly.

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come on board. In the latest *U.S. News & World Report* survey of graduate programs, Vanderbilt's chemical engineering department broke into the Top 50 for the first time.

"Without question, he's a national and international figure in adsorption research," says School of Engineering Dean Kenneth Galloway. "And Doug has simply been an exemplary leader. He has recruited exceptional young people into the department. He's breathed new life into that department. In many ways he leads by example."

"He's clearly a world-renowned leader in his research area," adds Kane Jennings, assistant professor of chemical engineering. "Also in line with that, he trains his graduate students exceptionally well. I've had the pleasure of sitting on a lot of his students' dissertation committees, and when they sign up to work with Doug, they become experts on adsorption as well during their time here at Vanderbilt. He's all about the total graduate experience for his graduate students. I think he's one of the best teachers in the School of Engineering. He teaches both undergraduate- and graduate-level courses, and all his students say very nice things about him. More often they talk about how hard his

courses are, but they never say anything bad about him—just how he's challenged them."

After our interview LeVan leads me down the hall to one of his lab rooms on the first floor of Olin Hall. On the day we stop in, five of his six graduate students are at work at their desks spread around the edges of the spacious, clean, brightly lit room, most of them peering into computer screens. Here and there on tables are various torpedo-shaped cylinders of gas feeding into narrow pipes and various pieces of boxy apparatus, some containing little tan-colored pellets that LeVan identifies as zeolite. After doing introductions LeVan points around the room at the various graduate students, indicating the source of their research funding: "Army, NASA, Vanderbilt University Discovery Grant, Army, NASA, and then one more new NASA student who we don't have a desk for in here yet."

We walk downstairs to another lab space on the basement floor, which is identical in size to the one above, though this one is filled with larger pieces of equipment and the room thrums with sounds of machinery. One piece of apparatus looks something like an oversized microwave oven. It's an environmental chamber, explains LeVan, capable of heating

or cooling what's inside to unearthly extremes. Inside is a metal canister the size and shape of a flashlight, which contains the zeolite that adsorbs CO₂ and allows CO to pass through. Various curlicues of metal tubing run into and out of it. This is the equipment that graduate student Krista Walton is using for LeVan's Mars atmosphere research.

"It's a test apparatus to show that the concept works," says LeVan. "And the concept works. We're getting beautiful results."

LeVan takes me around the room and patiently explains the functions of various other pieces of intricate-looking experimental equipment in the lab, such as a pressure-clean adsorber and a gravimetric adsorption equilibrium apparatus. It's clear that these complicated scientific devices are so central to his research that he's eager to have visitors understand them as fully as possible. And like all the best teachers, he apparently believes that if he's doing his job, eventually you *will* get it.

Some pupils, however, are not so apt. LeVan concludes our brief tour saying, "So that's basically what we do. It's pretty simple stuff." Seeing my look of uncomprehending disbelief, he adds a friendly, understated, "Well, it's simple to me."

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Pope has overseen the day-to-day operations of VUMC's Anatomical Donation Program for more than 18 years. Over time she and Dalley have learned to anticipate the number of donor deaths during a given year and enroll only enough donors to meet the projected educational and research needs for the following year.

Unlike Vanderbilt's program, some medical schools around the country still rely on unclaimed bodies provided by medical examiners' offices and deceased wards of the state through a state's hospital or prison system, and they may reimburse the expenses of approved procurement agencies for bodies to be used for medical education.

The Anatomical Donation Program took sole possession of the Medical Center North

morgue, otherwise known as "the old morgue," in 1988, thus offering the program enhanced confidentiality and security. All bodies donated to VUMC for medical education and research are housed here and go through an elaborate preparation process by an anatomical donations specialist.

Jason Ridley, the current anatomical donations specialist, has a master's degree from the University of Tennessee in forensic anthropology. Ridley's expertise is necessary for proper preparation of the bodies. He also works with first-year medical students, providing expertise concerning osteology (the study of bones) during their anatomy lab work.

Earlier this year Dalley and Pope were shocked by allegations, which proved to be true, that the anatomical donations director

at the University of California–Los Angeles School of Medicine was caught selling body parts to commercial brokers supplying drug companies and medical-device manufacturers against the school's policy.

"I cringed when these stories came out," says Pope. "Certainly, we don't do anything like that at Vanderbilt."

Vanderbilt's Anatomical Donation Program never sells any bodies or body parts. It is a whole-body donor program that neither accepts nor provides body parts. All remains of each individual are identified and kept together, separate from the remains of others, up to and including the time of burial. Only in instances where there is a surplus of necessary bodies for VUMC's needs, and the donor has expressly given written permission

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to do so, are any bodies shared with regional medical schools (and never with any institution other than these). These institutions must sign a contract with VUMC stating the shared bodies will be used only for medical education and that all remains will be returned to VUMC for disposition. In such cases, Vanderbilt is reimbursed only for the cost of embalming and transportation.

"We're so fortunate here. We feel that being able to support the region's other medical schools, when possible, is the right thing to do," Pope says.

Each spring, on the same day the hospital admitting office holds its memorial service for the babies who died there, Vanderbilt's Anatomical Donation Program holds a similar service for those who have donated their bodies to medical science. Donors whose bodies were used by Meharry Medical College and the Belmont University School of Physical Therapy are interred at the same time.

Of Death and Dying *continued from page 43*

"I remember the shock of realizing that here I am, the student, having to go into the room and pronounce the patient. All the eyes in the room were boring their way into my back as I stood there at the bedside," says Milstone. "I had two difficulties: One was pronouncing a patient for the first time, and the second, which was much harder, was to say something to the family that would ease their grief and shock."

Typically, a physician goes through a physical exam to declare death—listening for sounds from the heart, trying to detect breath sounds, and listening for a carotid artery pulse.

"Over time I've modified how I go about declaring death. This was my first attempt. All the people in the patient's room were looking at me. I felt very awkward, very much under a microscope as I did this," Milstone says. "I took the stethoscope and placed it at the patient's mouth to listen for breath sounds. I'll always remember the patient's husband leaning over and saying, 'Dr. Milstone, you're not going to hear anything. She's dead.' And that's when my attention turned to the family."

Over time Milstone has learned how to comfort families. "I always tell a family that

This year the cremated remains of 45 donors were interred in the Medical Center's plot after a respectful ceremony celebrating the donors' generosity. Statements of gratitude, songs and prayers were offered by some of the medical and physical therapy students privileged to benefit from the donors during the past year, and by Medical Center pastoral staff. The remains of all 45 donors were contained in individual biodegradable boxes with each donor's name labeled on top. A yellow carnation was placed on top of each box.

The service was attended by approximately 100 family members, and the name of each donor was read aloud. Students from all three schools thanked family members through word and song for their loved ones' gifts to further medical science.

Perhaps the gravestone says it best: "In Memory of Those Who Gave the Ultimate Gift of Their Bodies for Medical Science."

death is typically not an event that involves suffering for the patient," he says. "It's not always the case, but certainly is in most instances. I also tell the family that death is a peaceful process. That life is like a book, that one chapter has now closed and a new chapter has opened."

Milstone says it takes the better part of a medical career to develop the ability to be comfortable enough to discuss death with patients and their families. He considers it an integral part of the care he provides. "Even after 14 years in medicine, I continue to work on these skills," he says. "It should never be rehearsed, and it should never be perfect. If it is, then you've gone too far."

A coping plan for death for those who face it every day is as important for health-care providers as it is for the grieving families. "The emotional burden of loss for the provider is not as great as it is for the family, but it's certainly significant," says Milstone. "It's important to develop a way to discuss death with patients and families, but also important to develop a care plan for yourself."

—John Howser

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an elevation of 9,000 to 11,000 feet, regularly topping 12,000. As our lungs adjusted to life two miles above sea level, the elevation brought other challenges. Instead of drought we faced raging rivers, mosquito-infested bogs and miles of snowfields. Thunderstorms brought hail and rain, and sent us fleeing down mountainsides to get below the timber line. We slept wearing our clothes to survive freezing nights. At times the trail became so obscure that our path morphed into sheer walls of snow and ice.

While exhausting, the Sierras pierced me with their beauty. From the mountain peaks, pristine lakes dotted the frozen landscape like water droplets on a bed of cotton. Galaxies of Milky Way performers played on the nighttime stage. Deer and marmots frolicked among us as we followed the trail several thousand feet up at a time, from one mountain pass to the next, only to come back down again and repeat the process.

Coming out of the highest Sierras, our pace increased to 25 miles a day, and often 30. In Yosemite National Park we took a "day off," hiking only 22 miles in a highlight tour of the park, including the mountains Half-Dome and Clouds Rest. On July 4 we reached Lake Tahoe. By this point our bodies had molded into hiking machines. We hiked 90 miles in less than three days.

Whereas other hikers would take layover days in town, we pushed ahead, bound by a tight schedule. Over the entire summer, we took only three days off. When we began in the desert, we were two weeks behind the main pack of long-distance hikers. Now climbing the volcanic ranges along the Northern California–Nevada border, we had passed 90 percent of the hikers left on the trail.

Many attributed our resolve to the work habits of medical school. While that certainly played a part, what really moved me was our cause. I hiked for something bigger than my immediate condition. I hiked to gain the opportunity to help someone my age protect himself or herself from HIV, to know that I was helping someone back at Nashville CARES.

After 78 days on the trail, our journey ended in the Trinity Alps near Etna, Calif., within sight of Oregon. Standing once again