11. 2 Describe how the transition of new graduate nurses is facilitated.

Following general hospital and Department of Nursing orientations, entry into practice at Massachusetts General Hospital (MGH) is a precepted experience that pairs the novice nurse with a more senior nurse for an average of eight weeks for orientation to the general care units and for as long as six months for specialty and critical care areas.

From the time of hiring and throughout the transition from new graduate through entry level practitioner to clinician level practitioner, nurses are supported by preceptors, peers, Clinical Nurse Specialists and Nursing Directors. For example, upon hiring but prior to the arrival of the new nurse employee, the Nursing Director of Phillips House 20 and 21 sends a letter to the new graduate nurse (attachment 11.2.a) formally welcoming him/her to the hospital and unit and promising:

“an environment of care where you will:
♦ know your patients
♦ find the clinical resources you need
♦ have great mentors
♦ experience teamwork and collaboration, and
♦ receive the support you need to be successful”

During orientation, the new graduate is introduced to the role responsibilities of the Registered Nurse in a supportive environment.

“Even though I sometimes felt overwhelmed, inexperienced and scared, I knew that I was never alone. The nurses continued to encourage me, to answer my endless questions throughout the months. Eventually, the number of nurses who arrived to help me at the first sign of distress dwindled from four down to one. The nurses knew that if I needed help that I would call out for it and ask for exactly what I needed. However, if a true emergency arrives, I still have a whole team at my bedside within minutes. As I grew more confident in my practice, my colleagues helped me to rely on my own judgment and to perform the steps needed to correct mildly concerning situations. The practice of, at first, being by my side nearly all the time to gradually allowing me to build autonomy, helped me to grow into a more confident, capable and safer nurse.”

Nora Kaleshian, RN, Staff Nurse, Labor and Delivery

Goals are mutually established and periodically evaluated and revised throughout the orientation and beyond. Time is set aside to be spent with the Clinical Nurse Specialist to review unit and departmental standards, policies and procedures; to complete and review proficiency tests
and orientation checklist; and to discuss experiences. Didactic and simulation classes are scheduled during the first few months to provide a base of knowledge in such topics as Respiratory Care and the RN’s role in bedside emergencies.

The Norman Knight Nursing Center for Clinical & Professional Development offers a New Graduate RN Development Program (attachment 11.2.b). This two-session program is designed to assist the new nurse in negotiating the often challenging transition from student to professional nurse and allowing for open discussion and sharing among mentors and new graduates to foster a culture of support and learning.

The New Graduate in Critical Care Program is a six month program of orientation and mentorship designed to give baccalaureate prepared registered nurses with less than six months professional nursing experience an extended knowledge base in critical care nursing. The program includes both theory and clinical experience in critical care, incorporating clinical judgment, critical care knowledge of pathophysiologic processes and nursing interventions.

Each module of content includes the ethical basis for nursing action in critical care, as well as negotiation strategies for collaborative interdisciplinary work. New Graduates also develop knowledge in navigating systems of care and resource utilization.

These components are interwoven into the didactic/seminar/clinical structure of the program. Simulated clinical scenarios are used to enhance critical thinking skills and practice performance in crisis situations. A precepted clinical experience on the unit of hire, with approximately 500 hours of direct patient care, assists in the transition from student to professional critical care nurse. The experience of learning, mentorship, challenge and support is described in an award winning series of articles from the Boston Globe (attachment 11.2.c).

In all areas, the success of the transition and achievement of goals is evaluated by the Nursing Director and the new graduate, with input from the Preceptor and the Clinical Nurse Specialist.
August 2, 2007

Annie Nurse, RN
123 Street Ave
Town, MA 01234

Dear Annie

Welcome to Phillips House 21!

We are happy and proud that you have chosen to begin your nursing career with us. As I said in my first letter to you, we promise you an environment of care where you will:

- Know your patients
- Find the clinical resources you need
- Have great mentors
- Experience teamwork and collaboration
- Receive the support you need to be successful

Your preceptor will be Jane Doe RN. While you will be on a fulltime, day/night, every other weekend rotation, your schedule will for the most part follow that of Jane's and will include some evening shifts. Orientation ordinarily lasts eight weeks including some time to become familiar with the night shift.

The current time plan is completed through September 2nd and your schedule will be as follows:

Week 1 General Orientation
Note: Usually on Friday of the first week of General Orientation there is time set aside for you to visit your home unit. So on Friday, please feel free to come to Phillips House 21 and ask for Jane, who can show you around the unit and introduce you to staff.

Week 2 August
27 D (7AM – 7:30PM)
28 D
29 d (7AM – 3:30 PM)
30 d
31 Off

Sept.
1 Off
2 Off

Gayle Peterson, RN is our unit time planner. She will explain to you how the time plan is developed, how request are made, etc.
The dress code for nurses is scrubs. There is a staff lounge on Phillips House 21 (room 2143) where you will be assigned a shared locker space by Ingrid Crichlow, our Operations Coordinator. The lounge contains a refrigerator where you can store food for breaks.

Colleen Gonzalez, RN, our Clinical Nurse Specialist, will join me in meeting with you and your preceptor several times during your orientation to learn how we can be of help to you.

Again, Welcome to Phillips House 21

Sincerely,

Keith W. Perleberg RN, M.Div.
Nursing Director
Phillips House 20 and 21
New Graduate RN Development Program

The New Graduate RN Development Program was developed in 1998 to support new graduate registered nurses as they transition to their professional role. The first three to six months of a new graduate RN’s career have been identified as one of the most stressful times in a nurse’s career (Fisher & Connelly, 1999). Recent literature suggests that within this first year, 30-60% of new graduate RNs change their place of employment (Matthews & Nunley, 1992).

This program is designed to assist the new nurse to negotiate the often-challenging transition from student to professional nurse. Through the identification and support of a mentor as well as two all day sessions the new graduate is able to explore and understand the transition to the professional role at NGH. In the first session new graduates and mentors discuss the theory of skill acquisition and strategies to assist with socialization to their professional role. From skill acquisition, new graduates learn that the conflicted feelings they have of their work is normal and best of all they know that they are not alone in feeling this way. In the second session caring practices, communication, conflict management and ethics are discussed. In this session they discuss the challenges in caring for patients and families under stress and ways they can care for themselves. They learn ways to communicate more effectively with their colleagues and peers and manage the conflict that working in a highly stressful environment can breed. A source of conflict can be the ethical challenges faced by all that work in health care. The numerous supports available to them are discussed as well as the principles of ethical decision-making.

The program is designed to allow for open discussion and sharing among mentors and new graduates and to foster a culture of support and learning.

Session 1 is held the first Wednesday of the month and Session 2 the third Wednesday of the month.
A crash course in saving lives

BY SCOTT ALLEN | PHOTOS BY MICHELE MCDONALD | GLOBE STAFF

Julia Zelstein pulled back the crisp green blanket covering Helen, her patient, and suppressed a gasp.

“I’ve never seen anything like this,” she whispered to another nurse, standing nearby. “Never.”

Julia had read about necrotizing fasciitis — better known as flesh-eating bacteria — in nursing school, but this ravaged abdomen was beyond any textbook description. From just below the ribs down to the left hip, an enormous patch of Helen’s flesh had been surgically removed to block the fast-moving infection. Only a white layer of gauze covered her crimson muscles, and black magic marker lines, drawn by nurses across Helen’s thighs, mapped the bacteria’s continued spread.

Julia, a first-year nurse, carefully cut the sutures that held one of Helen’s monitoring lines in place. She revealed nothing of the thoughts racing through her mind as the 55-year-old patient, who was staring straight up and trembling slightly.

“I’m sorry dear,” Julia said softly, her accent redolent of her native Russia. “Does it hurt?”

Julia Zelstein called out to another nurse for help. Her patient had just undergone surgery.

The other nurse in the room, Michelle Jenrod Pender, had seen too much in 20 years of nursing at Massachusetts General Hospital to be unnerved by Helen’s wounds. She didn’t miss a beat in her stream of advice about removing the monitoring line from a major artery: Be sure to block the opening with gauze and “hold it real solid for five minutes” to prevent a gusher of blood. It was a
From October 23 through 26, 2005, *The Boston Globe* featured a front-page story in its unprecedented series, “Critical Care: The making of an ICU nurse.” The four-part series was the result of a year-long project between the newspaper and Mass. General. For seven months, *Globe* reporter Scott Allen and photographer Michele McDonald periodically shadowed two MGH nurses, Michelle “MJ” Pender and Julia Zelixon, in the hospital’s Surgical ICU. The two were participating in the MGH New Graduate Critical Care Nursing Program — MJ as a preceptor, and Julia as her new graduate preceptee.

As MJ mentored Julia throughout the program, the *Globe* staffers were able to observe, listen and learn about their practice firsthand and unfiltered. As a result, Mr. Allen’s writing and Ms. McDonald’s photographs reflect a very real view of nursing practice in 2005 — the many rewards and challenges, conflicts, demands, critical thinking, responsibilities, technical training — all of it.

The Massachusetts General Hospital Department of Nursing is pleased to provide you with this reprint of the complete series.
If it’s easy for you at this point, it should be scary.”

M.J. and Julia had been thrown together for an extraordinary crash course in the ways of the Intensive Care Unit — Mass. General’s answer to the national shortage of veteran nurses. M.J. had just eight months to turn a trainee fresh out of school into a nurse ready to care for the most gravely ill patients at one of the nation’s leading hospitals.

Eager and ambitious and, at 35, more tested by life than most of her peers, Julia was, from the start, utterly sure she would succeed.

M.J. believed in her, too, but also knew how hard the road ahead would be.

M.J. watched carefully as Julia continued preparing Helen to “travel,” an oddly cheery nursing term, considering where the patient was about to go. Doctors wanted a CT scan of the advanced ovarian cancer that surgeons had discovered as they battled the infection. Helen hadn’t been told yet, but she was in danger of dying from two diseases at once.

As with many intensive care patients, Helen’s problems were a devastating mix of bad luck and bad choices. The reclusive woman had noticed a lump in her groin months earlier, but had not sought medical help until the infection was rampant. She also had stopped chemotherapy for ovarian cancer against her oncologist’s advice. Surgeons at a suburban hospital discovered the consequences of both decisions, and promptly put her in an ambulance bound for Boston.

Now she was in the hands of Julia and M.J. in the surgical intensive care unit, or SICU. Nurses in the cluster of 20 small, starkly lit rooms on the fourth floor of Mass. General’s Ellison Building jokingly call the ambiance “cavelike,” because most of the windows look out on a brick wall a few feet away. But they pride themselves on caring for the most difficult caseload among the six intensive care units in this 875-bed teaching hospital of Harvard Medical School. Its patients run the gamut from gunshot victims to some of the most severely burned patients from the 2003 fire at the Station night club in Rhode Island.

The SICU is a place of inescapable intensity, where staff members converse in a clipped shorthand that is both urgent and sometimes vulgar; where the loudspeaker can summon a stampede of white coats and blue scrubs to the bedside of a “crashing” patient; and where, last anyone for a moment forget how fragile their patients are, electronic bulletin boards in the halls flash a stream of warnings in red — 434 APNEA ... 406 TACHY ... 428 VNT ALARM — whenever a patient’s vital signs drift beyond safe levels.
Julia set about moving Helen with single-minded zeal, stretching on tiptoes to the farthest corner of the bed to disconnect tubes and unplugging wires, laughing when M.J. compared her to an octopus. She got the monitoring line out of Helen’s artery and held gauze over the wound, just the way M.J. had suggested. She attached Helen’s IV medicines and fluids to a “trum,” a rack that hooks to the bed. She put a green canister of oxygen on the bed and connected it to a purple “ambu bag” with a facemask to manually inflate and deflate Helen’s lungs. She placed a portable vital-sign monitor in its rack at the foot of the bed, plugged Helen in, and headed off for the scan.

“You’re remembering everything today. You’re getting an A-plus,” exclaimed M.J.

Julia’s very presence in an ICU at New England’s largest hospital is a measure of the upheaval in nursing, one of the most demanding but least glorified professions in medicine. Although television shows such as "ER" make it seem as if doctors do just about everything in hospitals, nurses actually provide nearly 90 percent of intensive care, usually with no doctors in sight. Nurses sometimes feel like second-class citizens, but they are the backbone of the ICU, and hospitals struggle to recruit and train enough of them.

Until four years ago, Mass. General required nurses to have one to three years of hospital experience before they could work in the ICU, giving them more on-the-job training than most residents, the recent medical school graduates who are the frontline doctors in teaching hospitals.

As residents rotate through, seasoned nurses provide continuity of care and a practiced eye for the telltale blood pressure drop, raspy breathing, or other signs that a patient is failing.

But the nationwide shortage of nurses — 6.7 percent of nursing positions in Massachusetts are vacant — has forced even prestigious hospitals to take once-unthinkable steps to recruit the next generation, including signing bonuses of up to $5,000.

In 2001, Mass. General began its intensive care program for nurses, willing and able to work under near-constant stress. A patient in the SICU typically requires 20 hours of nursing care daily, 13 percent more than in 1999, as medicine gets better at keeping the sickest of the sick alive. Patients here routinely require a dozen or more intravenous medicines and up to six feeding and monitoring tubes.

“When I came there, I had a lot of confidence because of my life experience. It surprised me that there were a lot of things I wasn’t ready for.”

— Julia Zelvin, ICU nurse
“Critical Care: The Making of an ICU Nurse” continued - page 5

Attachment 11.2.c continued

The patients that ICU nurses are taking care of would have died 30 years ago,” said Jeanette Ives Erickson, Mass. General’s nursing chief.

Some senior nurses are uneasy about the growing number of first-year nurses in the ICU, believing they lack the judgment to make life-and-death decisions. But the idea is catching on: Nearly one-fifth of Julia’s graduating class went directly into intensive care or emergency room positions.

For Julia and the other fledgling nurses, the months of training would be exhausting. In short order they had to master how to administer scores of drugs; carry out complex procedures; help families cope in their darkest hour; and most importantly, head off crises that can take a patient swiftly from critical care to the morgue. “There were times when I would come home and couldn’t keep my eyes open past 8 p.m.,” recalled one former ICU trainee less than fondly. Senior nurses like M.J. decide whether trainees have the aptitude and grit for this work. And while the teachers are supportive, they pounce quickly on mistakes, especially those that may jeopardize patient safety.

“Some days you’re going to get hammered,” M.J. said one day, summarizing what she expects of trainees. “But you know what? Take it to heart, learn from it, and tomorrow’s another day.”

Not everyone makes it: Four of the 17 nurses in Julia’s class would not graduate, a higher dropout rate than basic training for the Marines. For those who survive, the price is considerable: a job with lots of autonomy at a world-famous teaching hospital, where senior nurses make more than $100,000 a year. For Julia, whose training was observed firsthand by a Globe reporter and photographer, graduating from the ICU program would mean something more: regaining her sense of direction after tragedy knocked her life off course.

A striking, red-haired woman whose square shoulders and firm jaw add to her aura of confidence, Julia arrived at Mass. General in August 2004, certain she would be a good nurse. Sure, she was a little intimidated by the place, and the fact that its ICUs take the patients too sick or badly injured for smaller hospitals to manage. But Julia was no kid — she had lived in three countries and had two children — and she had prepared well, getting excellent grades in nursing school and doing an internship in a community hospital ICU.

In fact, if not for the twists and turns of family life, Julia would be a doctor herself by now. Growing up in Omsk, a river city in West Siberia, it was her dream. “I knew I was going to be a doctor,” she remembered, her pale-blue eyes wide at the memory. “I had no doubt.” Her vision was matched by drive. Julia’s parents, a scientist and a voice instructor, had long stressed that she and her brother needed to outdo other students if they were to overcome the anti-Jewish bias in Russian society. “If there were 10 Russians all with the same [test scores], you would be the last chosen,” she recalled them saying. A voracious student who loved Russian translations of novels by William Faulkner, Julia won acceptance to the Omsk State Medical Academy, a six-year program that combines undergraduate and graduate education.

But three years into her training, in 1990, Julia’s family got long-awaited permission to immigrate to Israel. Newly married and pregnant with her son Michael, Julia moved to Haifa, and began learning a new language and culture. She tried, and failed, to get into Israeli medical schools, which were awash in applications from Soviet émigrés. “It was the most frustrating experience of my life,” she recalled.

Still, she gamely shifted gears, getting a business degree and taking a job at an electronics plant, where she eventually supervised 10 employees. By 1998 the family had moved into a big new house and she had given birth to a second son. “I had a really good life,” she recalled. Medicine, it seemed, was part of her past.
Then everything changed. Her husband, Valery, was offered a job in Massachusetts, and Julia reluctantly agreed to go along, believing the relocation would be temporary. The family settled into a smaller home in a country where Julia didn’t yet speak the language fluently and knew only two Israeli families. The brilliant foliage was the saving grace that fall.

Loneliness was soon the least of her concerns. Two months after she arrived in the United States, her toddler, Daniel, started to become apathetic and unresponsive, even to his parents. Doctors diagnosed him with a rare—and fatal—genetic disorder.

For two years, as Dan became progressively sicker, Julia cared for him round the clock. Finally, in the spring of 2001, she bought Dan a one-way ticket to Israel and the family returned to the country she loved so that her son could spend his final days surrounded by his extended family.

Until Dan’s illness, Julia had assumed she would eventually resume her business career. But now that seemed an empty prospect. The hours she had spent at her child’s side, at home and in hospitals, “sort of captured me and brought me back to what was mine when I was growing up.” She began talking to one of the visiting nurses about the possibility of becoming a nurse, a family-friendly alternative to getting an MD. “Medical school is OK when you’re 25,” she said, “but I wanted to enjoy my life.” Just before she left for Israel with Dan, Julia applied to the UMass-Lowell program.

She would have a new baby, Eitan, to look after by the time she began her studies in the fall of 2001. Nonetheless, she completed the four-year program in three years while still finding time to take English courses. Finally, she could read her beloved Faulkner in the original.

“She’s an amazingly committed woman,” said Stephanie Chalupka, director of the nursing program in Lowell. “She knew what she wanted, and she knew what she needed to do to get there.”

**Nursing shortage**

The percentage of nursing positions unfilled at Massachusetts hospitals has declined recently, but economists expect the shortage of registered nurses to continue over the next decade.

<table>
<thead>
<tr>
<th>Registered Nurse Vacancy Rates (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
</tr>
</tbody>
</table>

SOURCES: MHA/MONE Surveys; MHA Allied Health Vacancy Surveys

GLOBE STAFF GRAPHIC/CHRIS IRIGMAN

From the beginning of nursing school, Julia had known she wanted to work in intensive care. After graduation, Julia was accepted to ICU training programs at two Boston teaching hospitals. She chose Mass. General, believing that at such a busy, prestigious place she would have more freedom to make decisions. By the time she arrived one of the oldest “new” graduates in the ICU, Julia recalled, “I felt I was ready to go to work.”

M.J. wasn’t so sure. Julia had much less bedside experience than the three other intensive care nurses M.J. had trained, and she knew from the day the two met that she would have to work a little harder to prepare Julia.

And M.J. worried that Julia might be slow to accept a fact of nursing life: Though a nurse can influence doctors’ decisions, ultimately she must defer to them in diagnosis and treatment. M.J. suspected that Julia might approach her job like the doctor she once planned to be.

“Sometimes it’s hard for her,” M.J. said one day early in Julia’s training. “She’s used to telling other people what to do.”

***

Michael Hill, a muscular X-ray technician, braced his feet against the wall and pushed until he was almost horizontal, trying to slide an X-ray film under the abdomen of a semi-conscious 420-pound man as Julia and M.J. lifted his left side. But it wasn’t enough. “Turn help in 32, please,” announced M.J. over the intercom, and two critical-care technicians joined the crew at the patient’s bedside.

“These heavy patients,” said one of the technicians, Diamond Ambrose, “they’re murder on the human body.”

Such patients are increasingly common at Mass. General, where, on this winter day alone, 15 patients required “big boy beds” designed for people who weigh more than 350 pounds.

But for Julia, M.J., and the ICU staff, the real problem with the 54-year-old wasn’t how to make him comfortable, but the chain of health disasters his obesity had engendered. The man had come to Mass. General for replacement of two bad knees, and doctors gave him post-operative blood-thinning medications to prevent the blood clots that are common in gravely overweight patients. He was soon complaining of severe stomach pain that turned out to be internal bleeding, likely exacerbated
Within weeks of her arrival, Julia had already seen how independent-minded and forceful her teacher could be. A petite but sturdy Armenian grandmother, admitted to the ICU after hemia surgery, suddenly became delusional, insisting that her daughters were "ringing the doorbell," and that Japanese dinner guests would arrive soon. M.J. recognized her confusion as a symptom of oxygen deprivation and stuck a suction tube down the patient’s throat to clear her congested airway.

“I don’t want it! I don’t want it,” the woman hollered, but moments later, she was talking normally about her... by the blood thinners. Surgeons struggled to stop the bleeding, but by the time they succeeded, the blood loss had triggered both a heart attack and sepsis, a dangerous systemic infection. Now he was lying in the ICU with a fever of 103 and a breathing tube in his mouth, and the nurses were anxious that he might abruptly “bleed out” and die.

When she was a medical student in the former Soviet Union, Julia had seen lives ruined by rampant alcoholism and other lifestyle-related sicknesses. But it surprised her to see so much self-destructive behavior in a prosperous country like the United States, where popular culture celebrates the slender and the fit. Julia would care for 25 patients during the days and nights that a reporter was present to observe her training. Half of them had significantly contributed to their sickness through smoking, alcohol abuse, extreme obesity, or, in one case, failing for years to get treatment for diabetes.

Doctors at morning rounds said they hoped to break the obese patient’s fever, ease his breathing, and get his heart rate down, but his weight complicated all three goals. Julia and M.J. couldn’t get an electric chilling blanket underneath him, where it would be most effective, so they spread it over him. Then, Julia prepared a medication pump to give the man Lasix, a medicine that would help him urinate away the fluids that had swollen his belly and were hindering his breathing. But the man’s heart rate rose to 120 beats per minute, setting off a flashing red light on the vital-sign monitor.

M.J., who had stepped back to let Julia make decisions, couldn’t remain silent.

“What are you most worried about?” she asked, and then answered her own question. “Getting that heart rate down…. The value of the game is prevention. You don’t want him to have an MI [heart attack]. That will make your life very difficult today.”

For M.J., such on-the-spot decision making has become second nature. She is a big believer in seeking the advice of doctors whenever she has doubts, but the 42-year-old nurse has vastly more bedside experience than the young residents who pass through hospital again.

M.J. has far more autonomy than nurses at most hospitals, in part because the lines of authority between nurses and doctors in Mass. General’s ICUs are sometimes blurry and often crossed. M.J., for instance, will order X-rays or change drug doses in an emergency, then get a doctor’s approval after the fact.

“A lot of times, I feel we’re here more as consultants to the nurses,” said Dr. Bill Benedicto, an anesthesiologist, who notes that doctors can have up to 10 patients at a time while ICU nurses typically focus on no more than two. The relationship relies heavily on trust and communication, he said.

Still, M.J. and other ICU nurses know the public views them as less important than doctors, and they chafe when Abby, the only nurse among the main characters of ER, went off to medical school a few years ago. As ICU nurse Jen Matthiasen put it, “Doctors say, ‘Oh, you’re so smart, why aren’t you a doctor?’ I say, ‘I don’t want to steep on a cot.’”
The mother of 5-year-old Haley and 7-year-old Colin, M.J. seldom completely leaves her family life behind during her 12-hour shifts, fielding calls from the sitter, her husband Greg, and the children, and carrying an oversize calendar to track their first communions, swim meets, school barbecues, and other activities. During one full in the ICU last winter, M.J. grabbed a few minutes to read a magazine article on how to get children to pick up their toys and coach her husband by phone on where to find one of Haley’s favorite outfits.

At work, as at home, M.J. is accustomed to making decisions. Residents often glance in her direction during morning rounds and ask, “Isn’t that right, M.J.?” Everything about her seems practical and purposeful—from her choice of words to the clogs she wears for the extra inch of height she needs to reach IV bags.

M.J. knew from the age of 5 that she wanted to be a nurse. “My dolls always had broken arms, and I had to fix them,” she recalled. “I just never wanted to be a doctor. I saw them as being really busy and spending a lot of time on the bookwork of medicine and not really spending a whole lot of time with the patient.”

As a teenager she worked as a candy striper at the local hospital, then went to nursing school at the University of Vermont, landing at Mass. General right after graduation in 1984. Unlike Julia, however, M.J. spent three years on regular wards before she switched to intensive care.

“I would never have even considered going into an ICU right out of nursing school,” M.J. said. “It was something, stressful, I wasn’t going to put myself through.”

As Julia’s ICU training began to involve more nights, longer hours, and sicker patients, she began to see the wisdom in M.J.’s words—though she never doubted her decision to go straight from school to the ICU.

“When I came there, I had a lot of confidence because of my life experiences,” Julia said over tea one February morning. “It surprised me that there were a lot of things I wasn’t ready for.”

Julia held her patient’s right index finger reassuringly and leaned in close to his pillow while a resident peeled back the large bandage above Frank’s left knee. Grey foam concealed a deep, six-inch-long opening where surgeons had inserted steel pins to hold his thigh together.

“Are you all right?” Julia whispered sweetly, and Frank squeezed his eyes shut so tightly she knew the answer was no.

A generation ago, Frank would have died in the crash that landed him at Mass. General. Another driver, allegedly high on marijuana and painkillers, had smashed head-on into his car as Frank drove home from a birthday party. The impact nearly split Frank’s pelvis and shattered his left leg, so that he practically bled to death before firefighters could get him on the med-evac helicopter. Little more than an hour after the accident on a rural highway, the helicopter delivered Frank to Mass. General, where high-speed pumps kept him alive with transfusions equal to the entire blood supply of 10 adults.

Now, five weeks later, Frank was alive, but a challenging patient for a new nurse to manage. He was conscious enough to notice the picture of his nephew taped to the wall, but also to suffer as an orthopedist examined the gash in his leg for signs of infection. His heart was so fragile, it had stopped twice the previous weekend. And he had to be fitted with a device with five attachments running into his chest to monitor the strength of each beat and to stimulate his heart if it slowed. Julia had never cared for a patient with what’s called a pulmonary artery line, but she had a mantra for moments like these: “If it’s easy for you at this point, it should be scary.”

M.J. tried to make it sound simple: Just inflate the tiny balloon at the tip and slide the line along the blood vessel near his heart until it can’t advance any more. Of course, she had to warn that Julia could kill her patient if she moved the line beyond the vessel and into Frank’s heart. “You can put the patient into v-tac or v-fib,” M.J. said, using shorthand for rapid and irregular heartbeats. “It can be lethal.”

As she spoke, M.J. realized that Frank was watching them. A doctor himself, Frank wouldn’t speak because of the breathing tube in his trachea, though he moved his lips wordlessly. Still, the nurses knew Frank understood much more about what was happening to him than the average patient. He knew, certainly, that his life was, up to a point, in the hands of an ICU rookie.

“He knows everything,” M.J. said. “He’s listening to me teach Julia and thinking, ‘Oh, my God.’”

FOLLOW-UP VISIT

Helen, the woman suffering from flesh-eating bacteria in today’s story, recovered sufficiently to leave Mass. General last February, but she was readmitted to a suburban hospital with advanced ovarian cancer in March. She died in early April, a family member said. Frank, the car crash victim, recovered, but had no memory of his first six weeks in the ICU last fall. “My first recollection was October 29 when someone told me the Red Sox won the World Series,” he said. “I couldn’t believe it.”
As a patient’s needs multiply, the lessons become intense

By Scott Allen, The Boston Globe | October 24, 2005

Julia Zelixon had just gathered the dozen or more drugs she would need for her new patient when four nurses and doctors in blue surgical scrubs, caps, and masks wheeled the tiny, gaunt woman into room 402.

Unconscious in the big hospital bed, Kathleen looked almost childlike, but she was perilously close to death following emergency abdominal surgery. One nurse hand-pumped oxygen into her lungs while an anesthesiologist warned Julia and the other nurses in the surgical intensive care unit that a key oxygen sensor had fallen off Kathleen’s finger.

“We lost the SAT on the elevator,” the anesthesiologist said, referring to the clip-on device.

For Julia, this would be a critical test. A “sick admit” like Kathleen arrives on short notice from an accident scene or emergency surgery, often failing in so many ways at once that it can test the judgment of even an experienced nurse — and Julia was only months out of nursing school.

From the moment she laid eyes on Kathleen, she felt uncertain what to do.

Julia knew that the woman, who had nearly “flat-lined” that morning, had a host of problems — damaged lungs, a weak heart, and a potentially fatal intestinal condition. Plus, there were so many tubes that needed connecting — to IV drugs, to IV fluids, to monitoring lines inside Kathleen’s arteries, to the ventilator that would help her breathe. Which should she worry about first?

Julia Zelixon (foreground) and her mentor, M.J. Pender, shared a laugh while working with a patient who was watching a medical program on television.

There was nothing to do but dive in. She moved to disconnect Kathleen from her portable vital-signs monitor so that she could link her to the larger machines in the room.

For the moment, she did nothing about the missing oxygen sensor.

Standing at Julia’s side, her teacher, M.J. Pender, noticed the lapse immediately: “Without a SAT reading, there was no way to be sure oxygen was reaching Kathleen’s vital organs. The first thing Julia should have done was make sure the patient wasn’t dying right in front of them.”
Hard lessons from ‘a bad day’

"The first issue is breathing," said M.J. in a voice that left no room for discussion. "If your airway is shot, then you're screwed. Nothing else matters."

Maybe Julia should have expected a bad day. The 35-year-old mother of two woke up an hour later than her usual 4:30 a.m., putting her in a mad rush to catch the train to Massachusetts General Hospital for a 12-hour shift in the Ellison 4 surgical ICU. She flew out of the house bleary-eyed, her curly hair unwashed, and without her name tag and ID badge. All day, a strip of masking tape on her scrubs told patients who she was, and she had to borrow M.J.'s badge whenever she needed to get into the locked medications room.

"I hate it when the days start like that," she said.

Still, the morning went smoothly enough, as M.J. praised Julia's easy, compassionate manner with an 83-year-old man who had just undergone surgery for pancreatic cancer. Julia was feeling pretty good, too, about her progress in the hospital's grueling eight-month training regime for ICU nurses. One appreciative patient had even sent her a card that read: "You will make it. Never doubt that. In our minds, you already have."

As Julia grew comfortable in the ICU, her teachers, M.J. and Jeanne Rufo-Huckins, were letting her handle more tasks on her own. But M.J. knew that Julia's testing time lay ahead. She respected Julia's intelligence and her speedy mastery of complicated procedures. But she was less certain about how steady her student would be under pressure, and she wanted — needed — to find out. So M.J. was delighted when the "charge" nurse who administers the ICU told her she was expecting Kathleen, an 85-pound, chronically ill woman, to soon arrive on the floor.

"We haven't had a sick admit in a long time," M.J. said. "We need this."

As her mentor, M.J. looked over her shoulder. Julia (above) plugged in a monitor for her new patient, Kathleen. Anesthesiologist Sara Golub-Meffert works in the background.

The smile on Julia's face vanished when M.J. called her away from the elderly man's bedside at 11:45 a.m. to brief her on the new patient. "She's pretty much a disaster," M.J. told her. Julia remained outwardly calm, listening with arms folded, but her anxiety was mounting at the thought of caring for such a fragile patient. "If you make a mistake in a situation like that, you remember it forever," Julia remembers thinking.

Kathleen, 56, had been admitted earlier in the week to one of the regular floors at Mass. General with "toxic megacolon," a life-threatening intestinal condition that causes severe bloating, exccruating pain, and dehydration. Weakened by her other ailments, she had "crashed and burned," M.J. told Julia, and had to be transferred to another of the hos-
Julia, meanwhile, tackled the spaghetti of IV and monitoring lines on Kathleen’s bed. “Pick one thing and back out” the line from the tangle, said M.J., urging Julia to first fish out the two lines that measure heart function. Because Kathleen was dehydrated, they needed to know immediately — whether she was in imminent danger of heart failure. Not waiting for Julia, M.J. grabbed one of the lines only to discover that there was no electrical cable in the room to attach it to the monitor.

“Did you have three cables when you set up the room?” M.J. asked.

Julia said she did, but M.J. shook her head, replying coolly, “Actually, there was probably only one.” Julia started to respond, but held her tongue. She turned back to her patient, then went to fetch more cables.

When she returned, Julia connected the line from Kathleen’s pulmonary artery to the monitor, but M.J. was immediately puzzled by the heart rhythm that appeared on the screen. “The peaks and valleys didn’t seem to match the racing heart of the woman in the bed.” Then M.J. figured it out: They were looking at the heart rhythm of the last patient in the room. Julia had forgotten to erase the “brick,” the memory bank in the monitor that holds each patient’s information. The mistake was small and correctable, but irritating to M.J. because it showed a lack of planning.

“If you don’t do things before, it’s just one more thing you have to do when you’re really, really busy,” she reminded her student.

Still, M.J. was sympathetic, knowing that lots of people make mistakes in an emergency: The operating room team, for example, hadn’t kept track of how much blood Kathleen had received during surgery.
Forty-five minutes had passed since Kathleen’s arrival, and the nurses were finally getting a clearer picture of her heart’s performance. The information on the screen above her bed suggested dangerous dehydration: Her heart was beating fast, 134 beats per minute, but producing only about two-thirds the normal volume of blood. There wasn’t enough fluid to pump.

“Darn,” said Dr. Jose Ramos, the resident directing Kathleen’s care. “Let a whole liter of fluid flow in.” He had been reluctant to give too much fluid to Kathleen, fearing that it could accumulate and compress her weak lungs.

M.J. was frustrated, too, realizing that Kathleen had been growing more dehydrated the whole time she was in the room, and, in fact, she faulted Julia. She tried to turn frustration into a teaching moment, asking Julia what she should have done first for Kathleen’s heart. But when Julia suggested a drug to strengthen Kathleen’s heartbeats, M.J. cut her off, “If there’s no volume to pump, it’s not enough. Always check the stroke volume before prescribing.”

Any pretense that Julia was in charge of Kathleen’s care had given way to the reality that M.J. was calling the shots — and not just among the nurses. She told Ramos that Kathleen would need a nasogastric tube inserted up her nose, both for feeding and for draining fluid from her stomach, and she sent the resident to get it. When Ramos sheepishly returned empty-handed, M.J. chided him good-naturedly — “Oh, give me a break” — and sent a nurse to get the tube.

Julia remained stoic — and busy — through the afternoon as Kathleen’s vital signs gradually stabilized, but she was disappointed in herself. “I wasn’t happy with how I handled the first 40 minutes,” she admitted later, “I didn’t have a good grasp of my patient.”

Still, her basic self-confidence was undiminished. “Smart people learn from their own mistakes,” she said. And, she knew, ICU nurses and doctors inevitably make mistakes, given the frailty of the patients and the complexity of care. Even at a top hospital like Mass. General, the goal isn’t perfection, but to prevent errors from harming patients.

So, with her first solo shift as an ICU nurse tentatively slated for April 4, Julia felt she was ready. “There will be people to help me,” she said. “I think I’m pretty realistic about myself. I know I don’t know a lot of things.”

Tensions between teacher and student were probably inevitable as graduation approached and M.J. systematically reviewed the black “competency book” that listed the skills Julia would need to succeed. Fricka Coutts, one of the first to complete Mass. General’s ICU training for first-year nurses, said she came to despise the book so much that, when she graduated, she used the book for kindling.

“Julia is a really smart girl, and she has a lot of book knowledge, but it’s not her job to make a diagnosis.”

— M.J. Pender, Julia’s mentor

But there was also a clash of wills going on between two proud women. M.J., one of the most senior nurses in the ICU, was forceful in correcting even small mistakes, like an insufficiently clear “6” in the patient’s record. And she wanted Julia to do something that came hard to her — acknowledge her errors so they wouldn’t be repeated. “Doesn’t she know I’m putting my heart out on the floor, because I’m getting nothing from that girl?” she asked irritably one day when she felt Julia was disregarding her advice.

Julia was quieter than her teacher, but equally self-assured. She was by no means convinced that M.J. was right every time she corrected her. In nursing, Julia explained, there are often conflicting goals — like relieving pain without stifling the patient’s will to breathe — and good nurses can make different choices.

Julia didn’t openly disobey M.J., but her cheerful expression could turn to a scowl as she carried out her instructions. As a long winter gave way to spring, Julia was growing tired of being a student. “It works much better for me knowing that there’s no backup.” she said, “Whatever happens, it’s my responsibility.”

One March morning, Julia could no longer contain her frustration at the relentless viva of M.J.’s critiques. M.J. had been worried that their patient, a 66-year-old man, was endangered by poor blood circulation, and she was irritated when Julia paused to listen to his abdomen through a stethoscope before going for a doctor. “Julia, is a really smart girl, and she has a lot of book knowledge.” M.J. said within earshot of her student, “but it’s not her job to make a diagnosis.”

“Sometimes it’s like, OK, OK, I get it already.” Julia snapped back, flinging the stethoscope behind her neck and heading off to look for a resident.

However, both M.J. and Jeanne, Julia’s second instructor, agreed that there was more than a personality conflict at work. Maybe, the two nurses thought, Julia, who brought less experience to the ICU than most other trainees, just needed a little more time.

Still, M.J. worried. Even after their testy exchange, she had tried to leave the care of the 66-year-old patient with Julia. But M.J. didn’t stand back for long.

She chided Julia for not paying enough attention to the doctors’ instructions during morning rounds about the patient’s ventilator setting. (“You should really be able to spit back what they told you.”) M.J. didn’t like it that Julia hadn’t seemed to
notice that the semiconscious patient
was slowly raising his hand toward
his breathing tube, a device so
uncomfortable that patients will often
try to remove it. ("OK, I'm just going
to butt in here . . . !") Finally, M.J.
criticized Julia for trying to wrestle
the big man into a Johnny before she
administered a potent sedative.

"Oy, vey," said M.J. at how far off-
track the day had gone.

Two days later, Julia's teachers met
and concluded that she needed at
least two extra weeks of training,
meaning that she could graduate
with her class on March 28 but
would not be allowed to work on her
own until at least mid-April.
The next day, Julia sat across a
conference table from Jeanne, M.J.,
and Susan Tully, the SICU's chief
nurse, to get the bad news officially.

Julia argued that she couldn't be
expected to be as accomplished as
veteran nurses and that she would
always ask for help in situations
where she had doubts. But M.J. and
Jeanne made it clear that they wanted
to see improvement in the way Julia
planned for her patients' care. "It's
very hard to get back on your plan if
you don't have a plan," said M.J.

In addition, the two teachers felt that
Julia wasn't listening critically
even when the doctors came by on
rounds, and that she seemed reluc-
tant to go back to the residents for
clarification or help. In fact, M.J.
said, Julia seemed to want to do most
tings herself. During the extra two
weeks of training, they would have
Julia work from a checklist of prior-
ities for each patient.

"It doesn't mean you're not going to
graduate, but those things are serious
enough that you're not going to be
ready to be on your own in two
weeks," M.J. reassured her.

At first, Julia was discouraged: Had
she worked for four years to become
an ICU nurse only to find out she
wasn't very good at it? "I was think-
ing, probably I didn't do well," she
recalled, "but then I thought, no, I
don't think so. I think I'm able to
be realistic about myself."

Julia agreed that she could use more
practice in some areas, such as han-
dling new patients who are rapidly
go ing downhill. "It's a luxury, actu-
ally, to get all this training," Julia
concluded.

By the time graduation day rolled
around, Julia was chatting cheerfully
with other new ICU nurses about
her situation.

When she saw Jeanne, they
embraced warmly, and Jeanne
pressed a pastel bouquet of
daisies and snapdragons into
Julia's arms. "You deserve it,"
Jeanne said.

Julia was content for
the moment, but she had also made a
promise to herself. If her
teachers tried to add still more
time to her apprenticeship, she
would resist: "I would say,
'You know what, guys? I'm
going out of here.' "

FOLLOW-UP VISIT

Kathleen, the colon surgery
patient in today's story,
Improved enough to be
transferred to a rehabilitation
hospital, where, after months
using a wheelchair, she was
learning to walk again.
"She's up and out of bed and
doing therapy twice a day."
Kathleen's son Bill said five
months after his mother's
operation at Mass. General.
"The nurses did a great job
there."
The making of an ICU nurse

Third of four parts

Critical Care

TUESDAY, OCTOBER 25, 2005

Trauma case puts her capacity for clear-headedness to the test

Time was short, and M.J. Pender was impatient.

Upstairs in the Ellison tower of Massachusetts General Hospital, three surgical teams were struggling to save a young car-crash victim who had arrived by helicopter. But here in the surgical intensive care unit, M.J., a senior nurse, rocked on her clogs while the nurse she was training finished a report.

It was 4 on an early-spring afternoon, and the two had only 15 minutes to make sure an ICU room was ready for the grievously injured woman, who was likely to come out of the operating room needing blood, jolts of epinephrine and Lord knows what else.

"Write whatever I tell you," said M.J., as she strode alongside her student, Julia Zeltz. Toward the empty, starkly lit room where the victim would soon be brought, Julia grabbed the patient record book from the table outside and began writing down a list of injuries whose horror was clear to the first-year nurse despite M.J.'s antiseptic language.

"Bilateral uncal herniation. Severe brain damage, Julia thought. "Traumatic injury to her left arm. Extremity was blue. I don't know if she'll be amputed." Her left arm might be amputated. "Left tib fib fracture." Both major bones of her lower leg are broken. "Her GCS . . . was 4." Less than 9 on the Glasgow Coma Scale indicates a serious brain injury; this patient scarcely reacts to anything, even pain.

Sabrina, 33, had driven head-on into a truck, which crushed the driver's side of her small car. By some miracle, her infant son in the back was not seriously injured, but Sabrina, bleeding profusely, had to be freed from the wreck by firefighters.

"I don't like ones like these," said M.J., whose 17-year career in the ICU has given her a habit of endlessly reminding her husband to buckle his seatbelt. "Not pretty."

Yet the coming emergency — "hardcore ICU," M.J. called it — also energized her, in much the way the rush to a fire prepares firefighters for the hazards ahead.

Julia Zeltz (left) learned to emulate the can-do attitude of her teacher, M.J. Pender.

"We're a trauma unit," said M.J. "And a proud one. Some nurses in the Ellison 4 surgical ICU wear buttons that read "the real ICU" to differentiate themselves from another Mass. General unit with the same acronym, but fewer trauma patients. Some of Ellison 4's nurses went to Asia to help after last year's tsunami, and to Louisiana to treat survivors of Hurricane Katrina. "If you don't like trauma, you tend to leave," M.J. said.

Julia was quiet, but, inside, she was nervous. Some of the most emotionally exhausting patients she had cared for in her first seven months at Mass. General were accident victims: the man paralyzed two weeks before his wedding, the teenage girl with terrible head injuries from a rollover. She remembered how piercing it had been when the girl's mother pulled out her daughter's prom picture, taken just before the crash.

24
‘Your job is to keep your head above water’

“You can’t stand there and cry with them, as much as you’d like to,” Julia said. Each time she cared for a trauma patient, she wondered whether she had the inner reserves, the courage, to handle it.

Now Julia was about to admit the most severely injured patient of her career, and it was someone much like herself. The 45-year-old mother of two boys, Julia kept thinking about the baby who would be left behind if Sabrina died.

Julia had another reason to be pensive: How she conducted herself in the hours ahead would help show that she was ready to be on her own as an ICU nurse. With the end of her training near, Julia was anxious that everything go right.

None of Julia’s previous patients had died in her care, remarkable considering that patients in Ellison 4 are so sick that nearly one of every six dies. Tonight Julia suspected her luck might end, that Sabrina might die, or worse, survive with devastating disabilities. “Her quality of life could be just miserable,” Julia said.

But Julia also knew this about the ICU. Sometimes it is the patients who seem hopeless who walk out the front door. So she got to work, scribbling on a brown paper towel the things she needed to do to get Sabrina’s room ready.

Julia and M.J. quickly assembled their weapons for the battle ahead: bags of fluid and lots of IV lines, blood pressure boosters called pressors, and epinephrine — “levo,” in nurse parlance — to counteract shock. Outside the room, they left a “bolt cart” for implanting a pressure monitor in Sabrina’s skull, as well as defibrillator paddles to shock her heart back into rhythm. “Boy, you’re prepared,” said Dr. Robert Crawford, an ICU fellow four years out of medical school who would direct Sabrina’s care. Crawford, a friendly Virginian with a boyish face, was grateful for the help as he juggled seven other patients.

Believing that her patient, a car-accident victim named Sabrina, did not have long to live, M.J. (above, second from right) called the woman’s husband, Kevin, into the room so that he could see her one last time.

In the last minutes before Sabrina arrived, M.J. turned to her student with one more piece of advice. “Your job is to keep your head above water and admit your patient,” she said in a no-nonsense voice. “The surgical team and our team are going to be in your face, so just be ready for that.”

Just after 4:30 p.m., the elevator doors opened and the surgical team rolled in with Sabrina, slicing through a cluster of ICU doctors and nurses waiting to help. “She’s very unstable,” said anesthesiologist Gregory Ginsburg, amazed that Sabrina had survived this long. The young woman’s shaved scalp revealed a long red surgical scar. A drainage tube sprouted from the crown of her head to relieve
swelling, and her eyes were shut behind transparent surgical tape. A grey brace encased her neck, and her left arm was wrapped in blood-stained bandages. The rest of her body, save for bare feet, was covered by a blue-green blanket. At the foot of her bed, a white-and-red cooler held blood for transfusion.

The 15-by 20-foot rooms in the ICU feel crowded when just a handful of doctors gather for rounds, but as soon as Sabrina arrived the room literally filled, as every free hand on the medical staff — a total of 15 doctors, nurses and technicians — surged in behind the bed.

Julia and M.J. stood shoulder to shoulder with three other nurses on the right side of the bed, reaching over and around each other to connect Sabrina to breathing equipment, vital-sign monitors, and medication pumps. Anyone not directly working on the patient was forced to stand flush to the wall or get out. Making the quarters even closer, Crawford called for the door to be closed and the thermometer jacked up to keep Sabrina warm.

M.J. saw one problem immediately: “We’ve got an access issue,” she said. Because Sabrina had sustained chest injuries, doctors couldn’t insert a line into a major vein near her heart so nurses could rapidly infuse her with medicine, blood, and fluids. Instead, everything would have to go in through smaller IV lines connected to vessels in her undamaged right arm and leg. M.J., Julia, and other nurses started probing for useable veins, then hanging blood, plasma, fluids, and medications from an overhead rack, creating a zigzag of plastic tubes to the patient.

Julia’s anxiety ended the instant she saw Sabrina, her face swollen and her body bleeding. She needed to focus and keep her calm, professional self rise up. “I was out of thinking of her as a person, and she was my patient,” Julia later recalled.

As Sabrina’s “primary nurse,” Julia was nominally in charge, but she knew she didn’t have the experience to lead the nursing team. Of the five ICU nurses in the room, she had the least seniority by a wide margin, so one was waiting for her instructions. When Julia went to record Sabrina’s vital signs, she found another nurse already doing it. Meanwhile, a doc-

tor, trying to be helpful, started squeezing a blood bag to speed the transfusion, but M.J. stopped him because she feared a rush of blood would dilute the medication dripping through the same IV.

“Too many people,” Julia said under her breath.

Rather than fight the tide, Julia gracefully settled for a subordinate — though essential role, managing the medication pumps at the head of the bed as well as many direct injections, while keeping a written record of all the things being done to save Sabrina.

Too busy to chase at her secondary role, she administered a sedative to ease the pain when neurosurgeons inserted a “subarachnoid bolt,” a device to measure the pressure inside Sabrina’s brain. At the same time, as transfusions continued, she wrote down blood-bag serial numbers to doublecheck that Sabrina was getting the right type.

For long stretches of the afternoon, the nurses ran the resuscitation on their own. Crawford and the attending physician, Loreta Greco, made strategic decisions about Sabrina’s care, but they ducked out repeatedly, leaving M.J. to decide when to give more levo, to time the transfusions, to push the lab for quicker blood test results, and to direct the team.

“We need to finish rounds,” Greco said to M.J. as she and another nurse struggled to connect Sabrina’s brain monitor. “You guys can do this while we’re rounding?”

“Absolutely,” said M.J., never looking up from the monitor.
Critical Care: The Making of an ICU Nurse - page 17

Julia, too, saw no need for the doctors to stick around. As desperate as Sabrina’s condition was, this was “pretty much technical nursing,” as Julia described it, and she felt she had mastered the required tasks.

But M.J.’s and Julia’s can-do attitude was matched by a growing sense that they might lose this fight; they couldn’t get the blood into Sabrina’s body fast enough to keep her blood pressure from crashing. “I have four intravenous lines now, and I’m running out of IV ports,” said a frustrated M.J.

By 5:30, M.J. started to wonder what was happening to all the fluids they were pumping into Sabrina, and why her pulse wasn’t stronger. Then she took a closer look at Sabrina’s left arm, black pumics sticking out where the bones were held in place. “This is where your blood loss is,” she said, pulling a dripping, blood-drenched sheet from beneath the arm. A young anesthesiologist resident unwrapped the arm, revealing that most of the skin and much of the flesh were gone.

While the resident dabbed at the arm in a vain attempt to stop the bleeding, M.J. looked up at Sabrina’s vital-sign monitor. It showed her blood pressure perilously close to zero. “Go prime another line right now,” she said, turning to Julia. “Because if we run out of levo, we’re cooked.” Julia draped what she was doing and went to the medication room. Blood loss wasn’t Sabrina’s only problem. The bolt in her skull showed pressure six times normal — a potentially lethal level — and rising. And they were running out of blood for transfusion.

“We’re just losing the battle because I can’t keep up,” M.J. said to Crawford, when he returned briefly. “Her husband needs to come in, because she is going to die.”

Sabrina’s husband, Kevin, had known about his wife’s near-death accident for several hours, but when a social worker led him to the door a little after 6 p.m., it was the first time he’d seen her since they kissed good-bye that morning. M.J. moved quickly to greet him, removing her surgical glove and shaking his hand.

“Hi, I’m M.J., and I’m taking care of your wife, along with this team of people,” she said politely, matter-of-factly. “She looks a mess, and I’m really sorry for that, but I wanted you to be able to see her.”

Kevin, a slender man in his 30s, had red-rimmed eyes, but he was calm as he moved to his wife’s side. “You can take her hand,” said M.J., and he did, whispering into Sabrina’s ear and resting his forehead against her extended hand.

“You can’t stand there and cry with them, as much as you’d like to.”
— Julia Zelison, ICU nurse

With Kevin at her side, M.J. turned back to the increasingly desperate resuscitation. “If you’re not in here working, please leave. I need some space,” said M.J., looking toward the second row of medical staff in the room. “Not you, Kevin,” she said, touching his shoulder.

Surprisingly, the fresh round of epinephrine Julia had administered, coupled with more transfusions, had raised Sabrina’s blood pressure to above normal. After hours of crashing pressure, they now had the opposite problem. “You guys are doing an amazing job,” said an anesthesiologist, watching from the doorway. “I didn’t think she was going to live this long.”

“We might be making some progress,” conceded M.J., around 6:45, just after Kevin had left to check on his son in another part of the hospital. “I think because we pumped so much fluid into her, we’re starting to catch up.” In fact, M.J. felt encouraged enough to call the lab to chide them for not getting blood test results back quickly enough, something that would not matter if she had given up hope.

Yet, almost immediately, Crawford returned with a consulting neurosurgeon at his side and snuffed out the first hopeful moment of the day. Despite the team’s heroic effort, Crawford said, “She’s still not going to make it because of her head.”

The family had talked extensively about just this kind of situation following the media coverage of the Terri Schiavo right-to-die case in Florida, and Sabrina had a living will that called for an end to lifesaving efforts if there is no chance of a quality life. The family was determined to honor her wishes and wanted to keep her alive only long enough for her organs to be donated.

At a little past 7:00, M.J. walked out to where Julia was briefing the night nurse and wrote the simple instructions: “No CPR. No defibr. Pressors for organ donation.” The effort to save Sabrina was over.

Standing next to a “crash” cart of medications they never got to use, M.J. told Julia she was reassured by her performance under pressure. Unlike another “sick admit” a month earlier, when Julia reacted slowly to a warning that the woman could be in respiratory arrest, Julia made no judgment errors this night. One reason, M.J. said, was that Julia had swallowed her pride.

“In this type of full-scale, hard-core resuscitation, your role is basically what you did,” M.J. said. “You’re doing the things that you know you can do. We would never expect you to manage this resuscitation on your own. There’s just too much critical thinking happening so fast.”

Julia smiled wearily and put her hand on M.J.’s shoulder. Though the ending was tragic, Julia’s teacher had led her through an important — and inevitable — milestone for a critical care nurse: the death of a patient despite an all-out effort to save her. “Thanks,” Julia said, simply. “That was a good experience.”
Julia had also learned something important about herself: that she has what it takes to handle severe trauma cases. Even at the devastating climax of Sabrina’s care, she had remained clear-headed and professional.

And, looking ahead to the day when she would take charge of such a case, she had ideas about how to improve on what she had witnessed in the ICU.

“It’s not about who’s right and wrong,” she said. “It’s about caring for the patient. I have my own views.”

“T’m glad we could go through this together,” M.J. replied.

M.J. was too wired to leave the hospital when her shift ended at 7:30. She wound up staying until almost 10 p.m. — 15 hours after she started work — to greet Sabrina’s family and friends as they arrived, and help them cope with the fact that Sabrina was about to die. “I left that night feeling like I did what I had to do for the family,” M.J. said.

Julia had left at 8 p.m. to be with her two sons while her husband was away on business, but first she held Kevin’s hand and told him that she shared his grief.

“I don’t think it’s important what you say. It’s more important how you say it,” she explained later. Julia was known for her warm, reassuring manner with patients and families, but she wondered whether she would have had the presence of mind to make Kevin feel truly supported amid the chaos, the way M.J. had. The setting was clinical and impersonal, but M.J. had found a way to connect.

“By that time, I was so busy concentrating on my tasks. I probably wouldn’t be able to find the right words,” Julia admitted.

In the quiet of her suburban home that night, Julia made herself an apple martini and thought about Sabrina — a person again, not a patient — letting the emotional impact of her death wash over her.

“I kept thinking about her husband raising their son on his own,” said Julia, while her boys, 4-year-old Eran and 14-year-old Michael, slept in their bedrooms down the hall. “It’s so sad.”

**FOLLOW-UP VISIT**

Kevin, widower of the accident victim in today’s story, is deeply grateful to the nurses and doctors who tried to save his wife. “It really amazes me how hard they tried,” Sabrina’s death, Kevin said, as his 15-month-old played on the floor of his suburban home. “What a tough job to have to experience such failure ... and then go to work again the next day.”
Time comes to perform on her own

Julia Zelison stood at the center of a scrum of white-coated doctors, blue stethoscope around her neck, taking notes and fielding questions about Phyllis, her patient.

The slender white-haired woman suffered from inoperable bladder cancer, and her breathing had become so labored that the doctors feared she would need a mechanical ventilator. Julia had a suggestion: decrease the fluids in Phyllis’s system to give her lungs more room to expand.

“What are your goals on i’s and o’s?” she then asked confidently, using nurse shorthand for the patient’s IV fluid “input” and urine “output.”

While Julia, a first-year nurse in the surgical intensive care unit at Massachusetts General Hospital, consulted on the case, her teacher sat in the hall, drinking coffee and talking about taking her two children to see “The Lion King” during school vacation. There wasn’t much for M.J. Pender to do, and that was as it should be.

For today, if nothing went wrong, was to be the last day of Julia’s eight-month apprenticeship — a crash course in the most challenging brand of nursing at a hospital that cares for some of New England’s sickest patients. M.J. had deliberately skipped the beginning of morning rounds to give her student more independence, Julia, she said, “is definitely ready to be on her own, especially for this kind of assignment.”

Yet Julia did not feel as if she was on her own. Not at all. After 20 years in nursing, M.J.’s ability to rapidly size up a patient’s care and condition bordered on a sixth sense, and every time she popped into Phyllis’s room to check on Julia that morning, she rattled off a litany of concerns: The IV blood isn’t dripping fast enough... Did you ask her pain level?... Empty your urine bag, or you’re going to have a flood.

“I’m so ready to be out of orientation,” Julia grumbled to herself.

Julia knew that, with each critique, her freedom hung in the balance. The head nurse had instructed M.J. not to let Julia out of training unless she could safely care for the full range of patients, in the everyday workload of the ICU. M.J. and Julia’s other teacher, Jeanne Rutthuckner, had already extended her training by two weeks because they felt she wasn’t ready. If they extended her time again, Julia said, “I would be totally pissed, and they would know it.”

But by noon M.J. was feeling less confident about her student’s progress. Phyllis wasn’t doing well, clutching her stomach in agony and complaining that she was freezing.
‘It’s time to basically sink or swim’

When M.J. checked in, Phyllis’s blood pressure had dropped so low it set off a flashing red alarm on the vital-sign monitor, and M.J. was puzzled that Julia didn’t recognize the obvious. The treatment plan she had discussed with the doctors at morning rounds wasn’t working.

M.J. had stressed time and again the importance of getting a doctor when the patient takes a serious turn for the worse. Yet after all these months, M.J. felt that Julia was still stubbornly inclined to rely on her own judgment.

“She’s fully off your plan, basically,” M.J. said. “What should you do?”

“Get the resident,” answered Julia, giving the answer she knew her teacher wanted to hear.


After many shifts working side by side, Julia and M.J. had grown increasingly blunt and testy with each other. The two women considered themselves friends with much in common, but in some ways they may have had too much in common. Smart, opinionated, and strong-willed, both are accustomed to being in charge at home and at work, and neither finds it easy to hold back if they see a better way.

And Julia’s self-confidence had grown tremendously since she reported for ICU training straight out of nursing school the previous August. She had believed from the start that she would be a very good intensive care nurse. Now she had come to believe something else: that her teacher wasn’t always right.

In fact, she knew it. Ten days earlier, Julia had prevailed when M.J. questioned her judgment. The patient, a diabetic, had come to the hospital for what he thought would be a routine checkup and ended up with a diagnosis of advanced gangrene in his right leg, which required amputation at the knee. Julia wanted to turn off the blood-thinning drug the patient was receiving to prevent dangerous blood clots. M.J. thought otherwise, but the doctor assigned to the case agreed with Julia that the drug was causing internal bleeding and damaging the patient’s liver.

“I’m happy,” she beamed afterward.

But the glow from such moments didn’t last. M.J.’s running commentary was a constant, grating reminder to Julia she was still a student.

“I’ve had it up to here,” Julia said, holding her right hand to her eyebrows.

M.J. was tiring of the tension, too. Of all the nurses M.J. had trained, Julia was among the brightest and, at 35, brought the most life experience to the job. But she had comparatively little hospital experience, the practical bedside seasoning that could temper her textbook smarts and instinctive self-reliance.

On their last day working together, M.J. and Julia shared a quiet moment in the hall outside the SICU.
At left, Julia checked the medical record of an incoming patient while M.J. worked nearby.

Sometimes, M.J. said, she felt Julia was trying to win a debate that experience — M.J.’s experience — should decide. “Everybody else I’ve [taught],” when you say, “There’s a better way to do something,” they would listen to me, and they may not do it exactly, but they will incorporate it into their practice.”

Julia, M.J. complained, always had to be convinced, and even then, “She would do things her way.”

When the doctors returned to Phyllis’s room during afternoon rounds, they were discouraged by what they found. Her breathing — ragged from pneumonia — and her low blood pressure had not improved. “She’s slipping a little bit,” said Dr. Bill Benedetti, an anesthesiologist, bringing tears to the eyes of Phyllis’s son, who was sitting nearby.

Julia told the doctors that Phyllis was in a lot of pain and receiving little pain medication. But the patient was quiet while the doctors were on hand, and attending physician Ed Bitner was focused on avoiding the need for a breathing tube for the frail woman. If Phyllis were too sedated, he worried, it might weaken her will to breathe.

“I really dread the idea of her [breathing] continuing to worsen,” he said. “That would just suck.”

Bitner suggested that Julia sit Phyllis up in bed, so that she might be able to clear her lungs, and the doctors moved on.

“OK, dear, we’re just going to sit you up,” Julia said, as she started to adjust the bed to a more upright position. Phyllis began to moan.

“Oh, it hurts so bad,” she cried out, and complained that she was freezing again.

Just then, M.J. walked in.

“Did you tell them that she’s on no pain control at all?” M.J. demanded, looking toward Phyllis, her gasping mouth wide open beneath a breathing mask, Julia said she had told the doctors, but M.J. was unpersuaded.

“You’ve got to bring them in the room, because this is unacceptable. You have to go back to them and say their plan isn’t working.”

“Again, I raised it several times,” insisted Julia, her back straightening.

As M.J. looked at the medication record, she got even angrier. Though Phyllis’s heart was beating slightly faster than the target set by the doctors, Julia was not giving Phyllis the full dose of Lopressor that could slow it. “I brought this up at 11,” M.J. said. “Now it’s 4:30, and she’s still over 90 [beats per minute]. . . . She actually is somebody who, at that heart rate, could be vulnerable.”

As Phyllis continued to moan, a red-faced M.J. finally exploded, letting loose frustrations that had been mounting for weeks.

“If this was my grandmother, I’d be ballistic,” she said. “You have to appreciate that I’m a little bit aggravated. . . . I tell it up to you to decide what to do. . . . It’s not pain control to do nothing while she’s lying there. . . . You have a brain, and you are not just supposed to follow orders.”

Julia didn’t say a word, and she did what M.J. asked, retrieving a vial of Dlaudid from the medication room. Still, she did not believe that she had done anything wrong in caring for Phyllis. Like the doctors, Julia had been worried that any sedative would further weaken Phyllis’s already-shallow breathing. And wasn’t it M.J. herself who preached that protecting the patient’s breathing comes before everything else?

“Sometimes you have to admit that there’s nothing you can do,” Julia said later. “It’s not magic. It’s medicine. I saw her in a week, and she was still moaning. This woman was in chronic pain. It was her cancer.”
Attachment 11.2.c continued

If you don’t feel fine, speak now or forever hold your peace.”

“I’m ready,” Julia replied simply and unsmilingly, arms folded in front of her.

By 8 p.m., when the two nurses finished their last 13-hour day together, the anger of the afternoon had passed. But it was an awkward ending, hardly what Julia had imagined a few days earlier, when she bought a silk scarf at a tony shop on Newbury Street to thank M.J. Before becoming a nurse, Julia had trained new employees herself at an electronics plant in Israel. She knew how hard M.J. had worked, and she was grateful.

On her first day working on her own, Julia was teased by Dr. Judith Heiman for having such a long list of questions scribbled onto a piece of adhesive tape, to be sure she did not forget anything.

Julia did, however, agree deeply with the principle behind M.J.’s criticism: that a nurse must champion her patient’s needs, even if she has to stand up to the doctors. Early in her training, Julia and her other teacher, Jeanne, had gone over the head of a young doctor when he tried to stop the sedation for a girl who had suffered severe head injuries in a car accident. Julia believed that the first priority for the girl was rest. The supervising physician agreed, and reversed the order.

“It was a great lesson for me,” Julia later wrote for a class that was part of her ICU training. “It demonstrated the meaning of being the patient’s advocate. We are here at the bedside every minute . . . We should speak up.”

Rattled by her student’s decisions and demeanor — “It scares me that she’s not more scared” — M.J. briefly considered extending Julia’s training once again. But Jeanne argued that Julia was getting more restless as the weeks dragged on.

“She’s not 100 percent there, but she’s safe enough to be on her own,” she said.

Susan Tully, head nurse of the surgical ICU, agreed that M.J. was justified to be upset about Phyllis’s suffering, but she concluded that Julia had not done anything that harmed the patient, just made a different judgment call.

M.J. reluctantly admitted that, like a “mother duck,” it was time to let go, and she returned to Phyllis’s room to tell Julia:

“We think it’s time for you to basically sink or swim,” said M.J., practically spitting out the words as the two stood in the hall. “I’ve taught you everything I can teach you.

Julia also knew that she had tested M.J.’s patience, and that, more than once, M.J. had saved her from serious errors. But M.J.’s outburst about Phyllis had been humiliating. She had to summon all her self-control as she pulled the thing with M.J.’s scarf in it from behind her back.

M.J. was genuinely touched by Julia’s offering, and mortified by her “unprofessional” outburst, she apologized for being so hard on her student.

“I hope I didn’t seem like a bitch,” M.J. said.

“Sometimes you have to admit that there’s nothing you can do.
This isn’t magic. It’s medicine.”

— Julia Zelison, ICU nurse
Later that day, Julia checked on a man who had been grievously injured after he apparently steered his wheelchair into the path of an oncoming car.

The next Monday, Julia reported at 7 a.m. for her first solo shift as an ICU nurse. She quickly discovered that M.J. wasn’t kidding when she warned that there would be no special treatment.

The patient waiting for her was one of the toughest cases in the SICU that day; an immense, schizophrenic man who apparently had steered his wheelchair into the path of an oncoming car. Now, Julia realized, it really was time for her to "sink or swim."

The man, 42, had come in painfully short of suicide, winding up in a coma with head injuries, a fractured pelvis, a ruptured bladder, possible kidney failure, a broken leg, pneumonia, and a drug-resistant staph infection. He lay motionless, covered only in a loincloth, his breathing so shaky that it was unsafe even to X-ray his injuries. "He’s a do-not-move right now," said night nurse Deborah Simonetti.

But there was plenty of work for Julia. To start with, her patient needed 20 different medications, from pain relievers to antipsychotic drugs to laxatives.

Julia was surprised that she had such an unstable patient on her very first day, but she was game, peppering Simonetti with questions — What’s the blood pressure goal? What kind of IV fluids? Does he have bowel sounds? — and writing down questions for the doctors on a piece of white adhesive tape that she stuck to a small table. After a half-hour briefing from Simonetti, Julia did her own assessment of the patient, taking his temperature, flushing light in his eyes to test his responsiveness, checking his respirator for leaks, leaving nothing to chance. "I’m starting to figure out what I’m doing," she said.

But there was still so much to learn. Julia gave a puzzled look when nurse Suzanne Francis handed her a small black box with two electrodes to test her unconscious patient’s reflexes. Francis asked if she could show Julia how to use the simulator, but Julia demurred, preferring to figure it out for herself.

She attached one electrode to the man’s left wrist and the other to his thumb; then turned on the electrical current. The patient’s left thumb jumped ever so slightly, showing that there was lingering nerve function.

The patient was not completely comatose.

"Yes!" said Julia. She had solved her first puzzle as a full-fledged ICU nurse.

And she had done it without asking for help.

In the weeks that followed, M.J. waited for the rumor mill to pass word of how her former student was working out. M.J. knew that, as the teacher, she, too, would be judged by Julia’s work, and that other veteran nurses would be quick to let her know if things had gone awry.

But all the reports were excellent. One nurse did have a conflict with Julia, but when M.J. investigated, she took Julia’s side. By early June, M.J. said: “I’ve had nothing but good feedback the last two to three weeks. Somebody came up to me and said, ‘You guys did such a good job. She’s very focused.’ ” The favorable reports have continued into the fall.

‘Now that she’s on her own, she realizes that she has to be a nurse.... I think she’s going to be a great nurse.’

— M.J. Pender, Julia’s mentor
For M.J., the final proof of Julia's growth came one day in May, when she was tending a patient across the hall from her former student. Julia needed to get an unstable patient ready to leave the room for an MRI, a time-consuming test that requires more preparation than the usual movement of patients between rooms. Because Julia had never done it before, she crossed the hall to ask M.J. for advice.

“Sometimes,” M.J. reflected on their long months together, “I thought she was acting more like a medical student or a resident rather than a nurse. . . . Now that she's on her own, she realizes that she has to be a nurse. . . . I think she's going to be a great nurse.”

Julia, too, felt as if she had come a long way from the day she showed up at Mass. General, cocksure but also a little intimidated. There was no single moment of enlightenment, she said. “But at some point, I just got it.” Julia now understood that she would never “know it all,” and that she would always draw strength from those working with her.

“Nurses who have been here for 20 years have situations where it's not obvious what to do,” she said one summer evening. “In that kind of situation, you are supposed to work together. I don’t mind going and asking people questions. I’m more willing now, because I’m on my own.”


FOLLOW-UP VISIT

Phyllis, the cancer patient in today's story, died three weeks after the events described without leaving the hospital. Until she was diagnosed with cancer in the last two months of her life, Phyllis had been remarkably healthy, living in the same house with her husband for 50 years.