At the heart of health care
Grads of RIT’s medical sciences programs provide vital doses of passion and professionalism to the treatment of patients

Tom Gately couldn’t wait to get back to the emergency room. A former paramedic, he entered the physician assistant program at RIT as a non-traditional student. Even though he kept an open mind during the clinical internships in his senior year, nothing moved him like emergency medicine.

Gately ’03 is now the lead physician assistant in the Emergency Center at Unity Health Systems Park Ridge in Rochester, where he has worked since graduating. “I don’t think I could do anything else. It’s very exciting; it’s fast-paced. You have to pick up a lot of different things and be able to handle those as they come along. You have to move on your feet and think quickly.”

A passion for health care is not something that can be taught. It is the spark that motivates students to enroll in rigorous programs like RIT’s physician assistant and diagnostic medical sonography – also known as ultrasound – and to graduate into fields that require periodic re-testing and re-certification.

That impulse to make a difference also drives students to pursue degrees in RIT’s biomedical sciences, a program designed for students considering medicine, dentistry or veterinary science, graduate studies or applied research.

Even in a troubled economy, job prospects for physician assistants and sonographers look bright. In fact, it’s safe to say that the physician assistant profession is booming. The U.S. Bureau of Labor Statistics ranks physician assistants as the seventh fastest-growing occupation in the country, with expected increases reaching 39 percent through 2018. Diagnostic medical sonography is also expanding, with a projected 18 percent job growth. These statistics reflect, in part, the pending retirement of baby boomers from the health care industry as well as that generation’s anticipated health care needs.

“There is little doubt that we are currently seeing evidence of shortages in health care workers across a number of levels including physicians and physician assistants,” says Richard Doolittle, assistant provost for undergraduate education. “Professionals are going to be taxed by an increase of people seeking care. With implementation of the Obama health care reform plan, there will be many more people seeking health care who were previously uninsured or unable to seek medical attention.”

This projected need for more health care personnel is reflected in a national trend aligning universities and medical centers and hospitals. In December 2008, RIT and Rochester General Health System announced the RIT-RGHS Alliance, a partnership designed to capitalize on the strengths of both institutions.

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Tom Gately ’03, lead physician assistant, Emergency Center, Unity Health Systems Park Ridge, Rochester

“Matters of life and death
A large proportion of graduates from the physician assistant and ultrasound programs remain in upstate New York. “We have students all over the U.S. and in other countries...”

Please turn to the next page
as well and in the military,” says Heidi Miller, interim associate head of the School of Biological and Medical Sciences and director of the physician assistant program. “But I would say most are in the Northeast. The jobs are very plentiful and they certainly have their pick and the choice to move around.”

Alumni from the ultrasound program are employed in 36 states and many other countries, according to Hamad Ghazle ’89, director of the diagnostic medical sonography program. Many others remain in the area. “If you have an ultrasound examination in Rochester, you’ll most likely encounter one of our graduates,” he says.

Lisa Coppola ’10, who landed a job at Elizabeth Wende Breast Care in Rochester, likes the “detective work” involved in sonography. “You must draw on your knowledge to figure out the puzzle you sometimes see,” she says. “If you see one type of structure or pathology, you must know what potential conclusions to draw and what images to take to present to the radiologist.”

After passing their national boards, physician assistants and sonographers can practice in any state in the country. They play an important role in a team approach to health care. Sonographers work closely with radiologists; physician assistants practice under the supervision of a physician, and with a fair amount of autonomy, many having their own patient volume. Experienced physician assistants are capable of handling any case and discuss details with their supervising physician when appropriate.

“I think some of the things that are really rewarding are when you pick something up, like an impending disaster on someone,” Gately says. “You see someone young who should have no reason to have a blood clot. You thought of it for some reason and you picked it up. And that person could have died from it. And if they hadn’t seen you and you hadn’t been switched on about it, they could have walked out of that ER and had a fatal outcome.”

The academic and professional standards in the physician assistant program are among the highest on campus, Miller notes. “That is for a very good reason,” she says. “They have a very different set of responsibilities on Day One than most students do coming out of college.”

Third-year biomedical sciences majors Uchenna Azogu, left, and Janis Connor work with Robert Osgood, assistant professor, Department of Medical Sciences.

(PHOTO BY A. SUE WEISLER ’93)

Partnership fosters medical research

The School of Biological and Medical Sciences provides a vital link in the RIT-Rochester General Health Systems Alliance not only through the physician assistant and diagnostic medical sonography programs, but also through research in the biomedical sciences program.

This popular program began in fall 2007 as a springboard for students interested in pursuing graduate or professional school in health-related areas, such as the medical, dental and veterinarian fields or applied research in the biosciences.

Robert Osgood, assistant professor in the Department of Medical Sciences, and pediatrician Dr. Michael Pichichero at Rochester General Hospital are working on several research projects. One focuses on middle-ear infections, a chronic issue for many young children when organisms from their throat enter their middle ear via the Eustachian tube, which connects the two.

“The Eustachian tube in younger kids is almost horizontal and relatively wide and short, compared to an adult,” Osgood says. “Consequently, under those conditions, it’s easier for organisms that grow in the nasal area to get into the middle ear and cause an infection. But kids grow out of it over time because as they age, the Eustachian tube narrows, stands up more horizontally and becomes narrower, making it harder for an ear infection to occur.”

Another type of infection that Osgood and Pichichero are working to prevent pertains to organisms growing on catheters. “Nationally, hospitals have to deal with many catheter-related infections every year,” Osgood says. “It costs a lot of money to manage these infections. Rochester General Hospital is interested in any type of progress we can make at RIT to help diminish the number of catheter-related infections or prevent them altogether.”

Joining efforts with Osgood enhances the research program at Rochester General Hospital, Pichichero notes. “Working cooperatively, we can speed the process of discovery,” he says. “We have the opportunity to create a synergy of energy and perspective to a diverse collection of questions of significant scientific interest.”

For more information about the RIT/RGHS partnership, visit www.rit.edu/rghs.

Continued from previous page
Right from the start

The physician assistant program began in 1993 with Miller at the helm. In the 1980s, RIT’s former Department of Allied Health Sciences approached Rochester General Hospital about starting a program at RIT. Miller, then a physician assistant at the hospital, served as a consultant. “I was on the initial task force in the mid ’80s to begin thinking about creating a PA program at RIT.”

RIT has graduated 371 physician assistants since the program’s inception. The program currently accepts 25 to 30 students per incoming class. Once students reach the demanding third year in their respective programs, they take classes only with students in their major, focusing on medicine and preparing for clinical training in their final year.

Ryan Hand ’01 is helping to strengthen the connection between Rochester General Hospital and the university by contributing to the development of a post-graduate residency in surgery. Hand, who has been at Rochester General for nine years, is the lead general surgery physician assistant. “I think the alliance allows both institutions more opportunities for growth and strengthening their departments,” he says. “I have an interest in the surgical residency and have been actively working with a group on this.”

“It’s the thought of many that more of these residency programs will pop up because the PA really does mirror the MD,” says Doolittle. “They can specialize in everything medical doctors do, but residency programs have not been the norm, they’ve been the exception. There are only three other physician assistant residency programs in the state and they’re all surgery programs located in the New York City area.”

Seeing with sound

Similar to their counterparts in the physician assistant program, sonography students also learn about the human body, anatomy and physiology, and diseases that afflict every organ. They use ultrasound waves to “see” inside human anatomy using a complex process to create images from the sound waves that are sent into a patient’s body and bounce back. They learn how normal and diseased organs look on ultrasound and what type of disease would give that specific appearance. Sonographers work hand-in-hand with physicians and play a major role in the diagnostic process. Pending approval, RIT’s assistant residency programs in the state and they’re all surgery programs located in the New York City area.”

Cindy Marron ’94, has worked as a sonographer in the Diagnostic Imaging Department at Rochester General Hospital since graduation. Last year, her attention to customer service was recognized when she received the department’s CEO Award. “I really enjoy helping patients with such an amazing technology,” she says. (Photo by A. Sue Weisler ’93)
new certificate program in echocardiography, the scanning of the heart, will tap into the expertise at Rochester General Hospital, which has a nationally recognized, award-winning cardiac program.

Like Miller, Hamad Ghazle's relationship with RIT also began in the 1980s. In 1989, he earned a bachelor's of science in diagnostic medical sonography and, in 1994, became the program director. Ghazle added hospital affiliates for clinical rotations and grew the previously small program to nearly 100 students. Ghazle, who was nominated for the National Distinguished Educator for Diagnostic Medical Ultrasound 2010, teaches almost all of the ultrasound courses in the program. "That's my love," he says. "I can't let go."

"We're teaching them to produce high diagnostic imaging examinations and how to look at those examinations and decipher what's there," Ghazle says. "Right now, we work hand-in-hand with radiologists. My vision is that one day sonographers will do the examination and report directly to the referring physician."

For Stephanie Gaesser '06, working as a sonographer in the Imaging Sciences Department of Strong Memorial Hospital is the best of both worlds. "It is a very medical and technical job, but also very patient-centered," she says, noting the opportunity the job gives her to connect with a patient while performing the ultrasound.

"Hearing patients' stories and finding pathology when I least expect it is very hard," Gaesser says. "There are moments when you just want to stop and cry. But even when it's something really sad, at least my ultrasound pictures helped to answer a question for the patient's doctors and hopefully the patient was able to enjoy their time with me."

Paula Arnold '00 has worked in the Antenatal Testing Unit within The Women's Center at Rochester General Hospital since 2003. She is the senior sonographer and typically scans 11 to 16 patients per day as well as maintaining log charts, facilitating schedules and follow-up care, among other responsibilities.

Jodie Crowley '96, clinical coordinator, Diagnostic Medical Sonography program, 'pins' Sown-tharyah Pararajasingh. The ceremony, at the end of May of their junior year until May of their senior year. Each senior physician assistant student is required to complete 10 different clinical rotations, spending five weeks in internal medicine, family practice, OB/GYN, pediatrics, surgery, orthopedics, emergency medicine, psychiatry, geriatrics and an elective of their choosing.

Likewise, sonography students also complete two 18-week clinical rotations at different hospitals or clinics, covering organs in the abdomen and small parts, obstetrics and gynecology, vascular or Doppler ultrasound specialties. Sonography students are also provided with the opportunity to perform minor clinical rotations in neurosonography (inner structures of the brain), veterinary and echocardiography. This clinical experience is invaluable and assists the students to assume their responsibilities in the world of medicine and sonography.

RIT's alumni play an integral part in the training of students. For example, ultrasound students on rotation in Rochester General Hospital's Antenatal Testing Unit train under Arnold's guidance. "We started taking students when I arrived seven years ago because I feel as a graduate it is my job to 'build' good sonographers, if you will. I need to continue to help others grow and experience success in my chosen profession. It is important for them and also for me to grow as a person myself. It is very rewarding."

Coppola agrees that clinical experience prepares students for the workplace. "There are certain situations and experiences that cannot be replicated in a laboratory setting," she says. "That is one of the reasons hands-on learning in an environment where you are working side-by-side with knowledgeable professionals is so valuable. The student is being prepared to perform exams independently while also functioning as part of a team."

Tony Paul '04, '10 (criminal justice, diagnostic medical sonography), who was hired by Strong Memorial Hospital, shares Coppola's opinion. "It's great to learn things in the classroom first and then go out and actually put it all together. I enjoyed the clinical aspect the most. Interacting with real patients in a real health care setting was truly rewarding."

Sharing the experience
Gately, who runs the clinical phase at Park Ridge's Emergency Center, is on the adjunct faculty at RIT. He trains between five and seven students per year. His is a notoriously difficult rotation.

"I take the responsibility very seriously on a number of levels because when somebody gets through with this rotation they're going to pass and they're going to ultimately become a PA," Gately says. "And if we're letting people through who are making errors based on weak performance while they're here, that directly impacts a lot of people on a lot of levels. That could be your family member or mine that was treated by that person. It's the reputation of physician assistants in the community that trained them; it's the reputation of the physician assistant profession."

Gately trains his student interns to be sharp in the emergency room because when they graduate they must be proficient right away. They are expected to have a high degree of competency.

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Susan Gawlowicz '95