

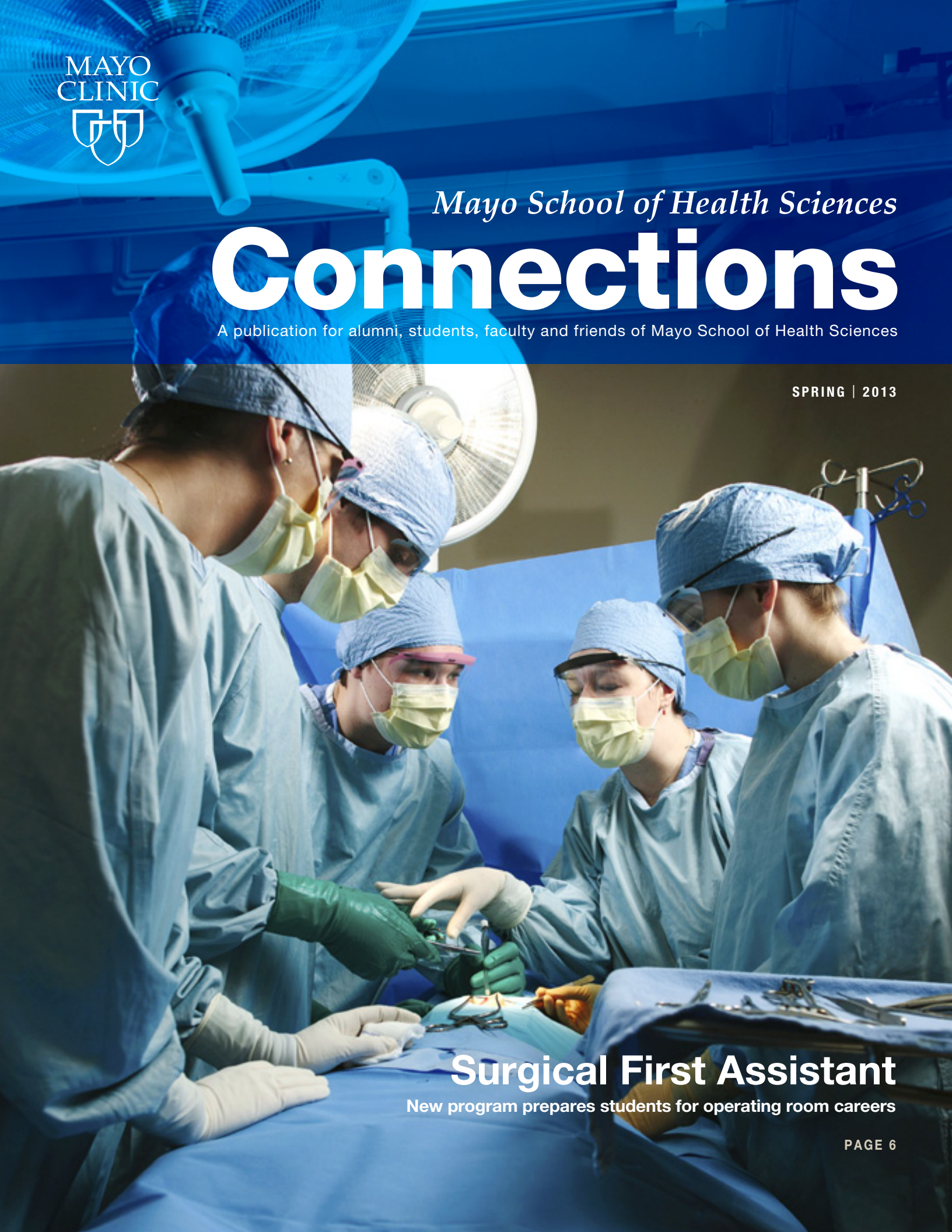


Mayo School of Health Sciences

Connections

A publication for alumni, students, faculty and friends of Mayo School of Health Sciences

SPRING | 2013



Surgical First Assistant

New program prepares students for operating room careers

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Change — The new comfort zone

This spring, hundreds of Mayo School of Health Sciences students are making final preparations for their postgraduate careers.

This juncture is a joyous time of anticipation and congratulations, as well as a gateway to considerable personal change. For graduates, the structure of routine is upended, co-workers are new, and countless unfamiliar rules for survival and success are encountered.

For all of us, new graduates and seasoned professionals, change is



everywhere. The environment of scientific discovery and politics is evolving at a breathtaking rate. The U.S. health care system is on the threshold of a gigantic evolutionary leap. Our success, and that of our health care organizations, is built on a foundation of accepting this changing world.

In 1930, Charles Mayo, MD, said, “Today the only thing that is permanent is change.” Eighty years later, those words are just as relevant.


But many of us naturally react to something unfamiliar and different with resistance. What a paradox. All of us embraced the unknown and unfamiliar by pursuing a life-changing career in health sciences. Yet after we are established, moving away from the status quo is uncomfortable.

Challenge yourself to reframe change as the new comfort zone. Knock down your mental barriers. Explore opportunities to do things differently. It could be a path to improve your work or personal life, as well as the lives of your patients, co-workers and families. So much is possible when the internal chants of “can’t, won’t and don’t want to” are silenced.

“Today the only thing that is permanent is change.”

– CHARLES MAYO, MD

This year is the 40th anniversary of Mayo School of Health Sciences. And 2014 will be the 150th anniversary of the founding of Mayo Clinic. The long, successful history of Mayo Clinic and our school are the result of many talented individuals who embodied personal discovery, compassion and ongoing transformation.

Explore, transform and embrace change — no matter where you are on your career path. Earning your degree or completing an education program is just the beginning. 

Caren Hughes, PharmD

President, Mayo School of Health Sciences Alumni Association

Clinical Pharmacy Specialist,
The University of Texas
MD Anderson Cancer Center

Mayo School of Health Sciences

Connections



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Inspiring the next generation

WARNING: PASSION FOR YOUR HEALTH-SCIENCE CAREER MAY BE CONTAGIOUS.

Exhibit A: Several years ago, Mike Davis, RDCS, a cardiac sonographer with Mayo Clinic Health System (MCHS) in Eau Claire, Wis., allowed a high school sophomore to shadow him on the job. The student, Brigitte Rediger, was intrigued and eventually enrolled in the MSHS Echocardiography Program in Rochester, Minn. Today, she is Davis' colleague.

"Brigitte has been such a wonderful addition to our department," Davis says. "She's a great technician and co-worker, and she's really good with patients. I feel absolutely terrific that I had an influence on her career choice. I'm very proud that I touched somebody's life, and we're all benefiting — our department, MCHS and our patients."

Opening eyes to career options

Davis and Arlyn Rediger, Brigitte's

father, have been friends since high school in Bloomer, Wis. After Davis joined the U.S. Navy, the two stayed in touch. Davis trained in echocardiography at the Naval School of Health Science in San Diego, Calif., and rose to the rank of chief petty officer at the Naval Hospital at Camp Pendleton, Oceanside, Calif. He retired from the Navy in 2001, moved back to Wisconsin and joined the echocardiography staff in Eau Claire.

"One day Arlyn called me out of the blue," Davis recalls. "His daughter had to shadow so many people for a class on careers, and he asked if there was any way she could watch me do my job."

On a day that Davis worked outreach at the hospital in Bloomer, Brigitte Rediger spent a half-day watching and listening as Davis introduced her to ultrasound imaging of the human heart.

"It is a great job," Davis says. "We get a real-time view of the heart. We see how the valves function and can even see the blood flow."

With the patient's permission, Rediger sat in on an echo exam.

"I absolutely fell in love with the occupation — the technology, getting to spend an hour with the patient, interacting with the doctor, and seeing the heart live," Rediger recalls. "I knew I wanted to do something in health care. Mike made the job sound and look exciting."

Career path leads home

While attending MSHS, Rediger worked weekends as a certified nursing assistant at a MCHS nursing home in Bloomer, which gave her and Davis an occasional chance to "talk shop."

"Helping her was easy," Davis says. "She's smart. I could see

Cardiac sonographers Mike Davis and Brigitte Rediger are colleagues at Mayo Clinic Health System in Eau Claire. Rediger first learned about echocardiography when she shadowed Davis on the job for a high school class assignment.


that she got what we do to assess cardiovascular anatomy.”

After completing the Echocardiography Program in February 2011, Rediger joined the Mayo Clinic Echocardiography Lab in Rochester, one of the largest echo laboratories in the world. As one of about 90 cardiac sonographers, she helped the lab perform more than 250 echocardiographic procedures a day.

Because her heart remained in her hometown, Rediger asked Davis to keep her in mind for any openings. In January 2012, she transferred to MCHS, where she is one of eight cardiac sonographers in Eau Claire and works at the hospital in Bloomer about one day a month.

“I wanted to stay in the Mayo system. I feel proud of the Mayo name and our high standards of patient care,” Rediger explains.

“And now I get to provide quality echocardiograms for people in the community that I grew up in.

“In this job, you learn something new every day. There are challenges every day. And it’s always rewarding. I know I made the right choice.” 

ARE YOU CONTAGIOUS?

Health care needs good people. If you love your profession, pass it on. Contact the program you attended or your professional association about opportunities to share your knowledge and experience with students.

Helping others discover lab careers

Meghan Phelan, MLS, has great sense of purpose in her work as a medical technologist in the Blood Bank and Transfusion Medicine Department at Mayo Clinic hospital in Jacksonville, Fla., and she’s eager to share her outlook.

“I work with transplant teams. I work on a lot of transfusions for the OR. I’m also trained on cell therapy,” Phelan says. “It’s a great work environment. It’s very fast-paced. I get a feeling of accomplishment because I’m making a difference.”

Because of that passion for her profession, the American Society for Clinical Pathology (ASCP) selected Phelan for its Career Ambassador Program in 2012. In the last three months of the year, she visited 11 Jacksonville-area science classes and staffed a booth at a career fair to make high school students aware of the critical role of lab professionals in health care. She plans to visit more classrooms in 2013, including the high school she attended.

Phelan feels qualified to be a career ambassador because she would have benefited from exposure to the laboratory field earlier in her school career. After completing a bachelor’s degree in biology from the University of Florida, she was undecided on which field to enter.

“I was ready to join the workforce. I knew I wanted to be in a medical profession, but I wasn’t sure what I wanted to do,” Phelan admits.

Then a friend who works for Mayo Clinic told her about the Medical Laboratory Science Program at Mayo School of Health Sciences. Labs ranked among her favorite classes in college because of the hands-on activity, the ability to see science in action and the challenge of solving problems, so she applied and discovered a career in the lab.

In July 2011, she completed the 12-month program, doing course work in Rochester and clinicals in Florida. Now she tells her own story to help the next wave of postsecondary candidates find direction.

“I wish someone had come to my high school to talk to us about career options for lab professionals,” Phelan says. “I hope I opened the students’ eyes to the possibilities in the medical field.”

She describes analyzing specimens to help diagnose disease as well as monitoring disease process and therapy effectiveness. To give students hands-on experience, she brings slides to view under microscopes and simulated

blood bags. She also answers questions for students and refers them to websites for more detail on a variety of lab professions.

Phelan says she feels honored to be a career ambassador and plans to continue encouraging students to pursue a future in the lab.



Meghan Phelan talks to high school students about laboratory job opportunities in her role as career ambassador for the American Society for Clinical Pathology.



Mary Tigner-Rasanen

New resources support students who struggle with intense pace

COACHING FOR SUCCESS

Administrators and instructors often describe the MSHS programs as intense — a pleasant way of saying this fountain of knowledge gushes like a fire hydrant.

A lofty overall completion rate of more than 90 percent indicates that most MSHS students can handle the academic demands. But growing concern for those at risk of drowning, and an increasingly diverse student body, prompted MSHS to do more to help students succeed.

“These are fast-moving and high-stakes programs,” says Mary Tigner-Rasanen, MSHS student success coach, who notes that students come

to MSHS as successful high school and college students. “But this is a whole new level.”

As a school with competitive admissions, MSHS attracts intelligent, highly motivated students. However, students come with different strengths and weaknesses in skills that contribute to student success. To succeed, students also need to know how to manage time and stress, take notes, balance workload with personal life and study efficiently.

With funding from benefactors, MSHS invested in services to support student success. After a few months of organizing,

Tigner-Rasanen began rolling out in April 2012 a multipronged approach to student success:

Tutoring: Tigner-Rasanen planned to offer individual tutoring only to students on academic warning or probation. But eight students she tutored during the fall semester also included a few who requested help or were identified by program directors.

“Some have gone along doing things one way, but then, when they encounter an increased load, it doesn’t work anymore,” Tigner-Rasanen says. For many, success lies in better time management or more effective study skills.

“Many are accustomed to learning material and telling it back on a test,” Tigner-Rasanen says. “At MSHS, you have to apply what you learn. You have to memorize less and process more to gain a deeper level of understanding. Once they get that, students sort of take off.”

Tigner-Rasanen typically asks the student to complete assessments to help identify issues. Then they meet as needed to address those issues.

“I suggest changes, and they make them,” Tigner-Rasanen says. “The students have been so responsive and willing to make changes.”

Online learning resources: All MSHS students can access an online collection of learning-related materials. Stored in Blackboard, the online platform for the MSHS e-curriculum, the module is a self-help bonanza. Self-assessments help students identify

“You have to memorize less and process more to gain a deeper level of understanding. Once they get that, students sort of take off.” –MARY TIGNER-RASANEN

traits and habits that interfere with learning. Other documents offer advice and insights on time management, strategic reading, study strategies, test taking, memory, writing and research.


“In the past, when students had problems, MSHS didn’t have many resources to support them. Now we do,” Tigner-Rasanen says. “The point is to learn. There are smart ways to study and some that essentially waste time. We’re highlighting techniques that help students learn efficiently.”

A former English teacher with a master’s degree in library science and certification in postsecondary reading and learning, Tigner-Rasanen researched methods to ensure that MSHS offered authoritative guidance grounded in best practices.

Workshops: During the fall 2012 semester, Tigner-Rasanen gave presentations on strategic learning, time management and the online resources to about 225 students, including everyone in the Phlebotomy Program.

“Mary comes during the beginning of every 10-week class to introduce herself and her services to our students,” says Mary Kaye Peterson, director of the Phlebotomy Program. “The first two weeks of this program are especially intense.”

Since weaknesses must be corrected as soon as possible, Peterson wanted students to know about the online resources and tutoring. She suspects that this support is more important now that MSHS has moved her program to a blended learning model, which replaces classroom lectures with interactive learning activities.

“It can be a little tougher to self-manage time with this type of learning model,” she says. “I can see where somebody might struggle with that freedom and flexibility and have trouble making the best use of their time.” 

What’s next?

Student Success Coach Mary Tigner-Rasanen and colleagues are working on additional efforts to help students succeed:

- **Content tutors.** Beginning in 2013, peer tutors from Mayo Medical School will be available to help MSHS students on the most challenging courses: Anatomy, Physiology, Chemistry, Physics and Neuroscience. For other subjects, Tigner-Rasanen plans to develop online tutor-training modules and recruit student tutors from MSHS and Mayo Graduate School.
- **Mentors.** Tigner-Rasanen has asked Mayo Clinic employee resource groups, each dedicated to a specific minority, to encourage members to become mentors to MSHS minority students.
- **Faculty success.** Just as some students need help to learn more effectively, Tigner-Rasanen says faculty want help to teach more effectively. She is working in collaboration with faculty on a possible option for instructors.
- **Language barriers.** For admissions, MSHS is considering a reading test to gauge the level of English comprehension. When needed, students might be encouraged to take courses in English to better prepare before entering the program.



TIPS FOR BETTER LEARNING

1. Use time wisely. Eliminate waste and maximize the value of time spent.
2. Schedule exercise, meals, socializing, class, and homework – to gain control of your time, get more done and reduce stress.
3. Focus on learning, not studying.
4. To stimulate learning, process the material – make connections, summarize, recite what you know, reorganize, and map information.
5. Memorize facts, but strive to understand relationships.
6. Recite – out loud or in writing – to consolidate understanding.
7. Review daily and weekly. Without review, you can quickly forget.
8. To minimize test anxiety, prepare well, be well rested and eat well that morning. Calm yourself by focusing on your breathing.
9. Balance work with exercise, relaxation, and the company of people you care about.
10. Use all resources at your disposal to be successful.



Surgical First Assistant

New program prepares students for operating room careers

Each day at Mayo Clinic, staff perform 150 to 300 surgeries — from routine tonsillectomies to complex transplants. The success of each procedure depends on a well-trained team of experts, including a surgeon, anesthesiologist, nurses and a surgical first assistant.

“First assistants play an important role in surgery,” says Sarah Penkava, director of the new Surgical First Assistant Program. “They are responsible for everything from positioning patients correctly to dressing wounds and closing incisions.”

Like many MSHS programs, the Surgical First Assistant Program was launched to help meet a staffing need. Fewer than 10 schools in the United States offer training programs for

surgical first assistants, making it difficult to produce enough graduates to fill the nation’s operating rooms. Surgical first assistants can also enter the field through on-the-job experience, but that route requires five years of operating room experience.

Shortage of job applicants

As a result, most health care facilities — including Mayo Clinic — have trouble finding enough qualified candidates to fill open positions.

“It seems to be a universal problem,” says Penkava. “We were looking for an opportunity to internally develop strong candidates to meet Mayo’s needs.”

In January 2012, Helga Olson and Michael Desorcie, two experienced certified surgical assistants on the

Mayo Clinic staff, were tapped to develop curriculum for the program. They created a yearlong series of classroom and clinical experiences that include advanced human anatomy, suture and tying skills, casting, and laparoscopic and robotic surgical techniques. The program also includes extensive experience in both the Multidisciplinary Simulation Center and anatomy lab, and approximately 1,150 hours of clinical experience in general and specialty surgical areas.

With curriculum in place, Penkava began recruiting. She attended career festivals and spoke about the program on college campuses and with Mayo Clinic staff, asking them spread the word. She advertised the program in local publications and created a

Certified Surgical Assistant Helga Olson, center, instructs students in the inaugural class of the MSHS Surgical First Assistant Program. Students, left to right, are: Molly Osborn, Geoffrey Gerardin, Logan Wolf and Samantha Neptune.

Facebook page. The National Surgical Assistant Association website listed the program.

“We were able to take up to 20 students, but we didn’t want to take just any 20 students,” Penkava says. “We were looking for people who are detail-oriented, who like to work with their hands. Health care experience was also a plus.”

The Program Selection Committee eventually invited 10 students to join the inaugural class.

With a bachelor’s degree in biomedical sciences and work and volunteer experience in health care, Geoff Gerardin was just the type of candidate Penkava was seeking. And when he heard about the program, Gerardin knew he’d found the career direction he’d been struggling to find as he approached college graduation.

“I had an interest in health sciences, but even with health care experience, I didn’t feel I had full comprehension of the various career

opportunities,” says Gerardin, who graduated from the University of Wisconsin-River Falls in 2012. “When I heard about the new Surgical First Assistant Program, it seemed to be a perfect fit for me.”

Gerardin had some concerns about being part of the program’s inaugural class. But his faith in Mayo’s reputation convinced him to enroll. That faith, he says, has turned out to be well placed.

Clinical, classes interconnected

“I knew that there was no better place to be immersed into the world of medicine,” says Gerardin, adding that he has been “astounded” by the quality of the program. “Our instructors are extremely knowledgeable and skilled in sharing their experience with us. There’s an interconnection between the clinical and classroom settings that reinforces what is taught in class.”

Penkava says that interconnection is intentional.

“Books and simulation can’t replace real-life experience,” she says, noting another benefit of the program’s real-world design. “We’re also teaching students how to work together outside of their silo. We bring in guest lecturers to talk about specific types of patients and procedures that students will encounter on the job. They’re having opportunities to network and build relationships throughout the organization.”


Molly Osborn, another student in the program, has appreciated these opportunities.

“We’ve interacted with a wide variety of professionals across many disciplines, and all have made us feel welcome and have offered to help us in any way they can,” says Osborn, who graduated from the University of Minnesota in 2010. “I’ve certainly felt a sense of community.”

She hopes to remain part of this community.

“After graduation, I hope to find a job in a place where I can further my education and continue to hone my skills,” says Osborn. “Ideally, that place will be Mayo.”

Gerardin, too, hopes to build a career at Mayo Clinic.

“I hope to stay here after graduation,” he says. “I’m energized and inspired by the culture of learning and service here and want to remain a part of it.” 



Student Geoff Gerardin graduated from the University of Wisconsin-River Falls in 2012 with a bachelor’s degree in biomedical sciences. He was unsure about his career direction until he learned about the Surgical First Assistant Program.

Surgical First Assistant Program quick facts

- **Program length:** 12 months
- **Prerequisites:** Baccalaureate degree with specified science courses
- **Granted:** MSHS certificate of completion
- **Placement outlook:** Very good

A conversation with Mark Warner, MD, executive dean for Education

Education better, faster, broader. Why not?

Mark Warner, MD, newly appointed executive dean for Education, answers a few questions about changes ahead in education at Mayo Clinic.

What's your broad vision for education at Mayo Clinic?

Education is about more than our five schools within the College of Medicine, Mayo Clinic. We need to continue to run exemplary schools, but there are 30,000 staff at Mayo Clinic who provide hands-on patient care and they also need education. We need to provide education that benefits them all, including students in our schools, our health care partners inside and outside of Mayo Clinic, alumni, patients and their families. It's a broader education shield, and that's where we are headed.

What changes do you see in the near term? Longer term?

If we can educate more people better and faster, why not? Education is expensive for students and also for Mayo Clinic. There's evidence that suggests we can accelerate learning, improve knowledge retention and reduce costs.

Fairly quickly, that will mean more knowledge transfer using online tools — a Mayo Clinic Online University. Longer term, online resources will allow us to collaborate with health care centers and schools nationally and internationally, sharing our education resources.

Tell us more about Mayo Clinic Online University.

This resource will be a method by which we provide new knowledge as well as continuing education to students, staff, alumni and the public in general. Topics will be packaged in modules that are readily modifiable for unique audiences. They will be crafted in such a way as to be entertaining as well as educational.

MSHS is already building courses that fit into this new approach. They have added professional enhancement courses for practicing allied health practitioners. Examples are Wellness Coaching and Diabetes Intensive Training. And MSHS is piloting new curricula in three programs that combine online and traditional instruction.

What challenges are ahead?

Many staff members involved with patient care have licenses or certificates that signify their successful completion of initial training and ongoing education. We need to work with accrediting bodies to get past education criteria and curricula that are based on time in training. That represents the traditional or "old school" approach. We believe we can teach faster and better. We have no doubts — there will be resistance from some.

However, we'll challenge, collaborate and do the pilot projects needed to document the success of new educational programs.

Did you expect that your career would take you in this direction?

I'm not trained formally in education. In fact, it would probably be more appropriate to say that I'm a plain ol' physician who loves to practice. My administrative partner, Steve Jorgensen, has a similar practice-focused background. Our goal is to bring a very specific patient focus to our educational activities. We have a tagline that fits that approach: "Preparing today for the practice of tomorrow." That's what we do in Mayo Clinic Education. We prepare today's students and trainees for generating new knowledge and building the practices of the future.

What advantages (or opportunities) does Mayo Clinic bring to this broader Education shield?

We have the educators and practice resources needed to improve education. Our students will be able to spend less time in the classroom and more time learning how teams of health care providers can improve patient safety and outcomes. That's the advantage and the opportunity at Mayo Clinic.



Dr. Warner to share technology wonders at Alumni Association Annual Meeting

Mark Warner, MD, executive dean for Education, will be the keynote speaker at the 2013 Mayo School of Health Sciences Alumni Association Annual Meeting on April 26. He'll present "Star Wars Technology That Impacts Medicine and Everyday Life," featuring stories about amazing medical advances, many already benefiting patients. Examples include:

Robots and no-incision appendectomy: Thumb-sized robots placed into the abdomen and dispatched via computer to stretch the appendix and excise it with an argon laser. These tiny workers tow the released appendix, retreat to the scope and are withdrawn through the mouth.

Hysterectomy alternative: Magnetic resonance and ultrasound technology are used to "spot weld" painful or bleeding uterine fibroids in three dimensions. The procedure destroys the fibroids with no incision and eliminates the need for hysterectomy.

Nanocrystals, magnets and angiograms: Iodine used as a contrast solution in angiograms can harm patients with kidney damage. To avoid this risk, magnetized nanocrystals are used to collect the iodine before it reaches the kidneys, making angiograms safe for patients with kidney disease.



Researchers are developing thumb-sized robots able to excise and retrieve an appendix.

ABOUT DR. WARNER

Mark Warner, MD, was recently named executive dean for Education at Mayo Clinic. In that role, he provides oversight of five schools, including Mayo School of Health Sciences. A consultant in anesthesiology since 1983, he is the Annenberg Professor in Anesthesiology.

Some career highlights

- Dean, Mayo School of Graduate Medical Education, 2006–2012
- President, American Society of Anesthesiologists, 2011
- President, American Board of Anesthesiology, 2009
- Chair, Mayo Clinic Department of Anesthesiology, 1999–2005


Education

- MD degree from the Medical College of Ohio
- Anesthesiology residency at Mayo Clinic

Hobbies

- Pilot, skydiver

Family

His wife, Mary Ellen Warner, MD, is an anesthesiologist at Mayo Clinic. Two of their sons and a daughter-in-law are anesthesiology residents at Mayo Clinic. Another daughter-in-law is a Mayo medical student. Two sons serve in the U.S. Air Force. 

ALUMNI MEETING

Friday, April 26, 2013

Rochester Marriott Hotel

Rochester, Minn.

5:30 p.m. – Reception

6:15 p.m. – Program

7:15 p.m. – Dinner

The event is free for alumni.

Register at www.mayo.edu/alumni.



New NP/PA Fellowship addresses critical care training

Robert Wiegand

Chad Rasmussen

A new Nurse Practitioner/Physician Assistant Critical Care Fellowship at MSHS in Rochester will help to address the growing need for critical care providers. The new program starts this fall and will be the first NP/PA Critical Care Fellowship in the Midwest.


Why is this fellowship so important? According to Chad Rasmussen, RN, CNP, supervisor NP/PA, Division of Critical Care at Mayo Clinic in Rochester, current NP and PA programs prepare students to work in primary care or outpatient practices, and training in critical care is typically done on the job. Coupled with this is the restriction on resident physicians' work hours, which contributes to a shortage of critical care providers.

"It's important that NP/PA training become aligned with their practice," says Rasmussen, co-director of the fellowship along with Robert Wiegand, PA-C.

"In Rochester, Methodist

Hospital's Intensive Care Unit and Saint Marys Hospital's Cardiovascular/Transplant Surgery and Trauma/Surgical Intensive Care Unit already use NPs and PAs," says Rasmussen. "The fellowship will better prepare professionals as other ICUs begin using nurse practitioners and physician assistants."

He adds that more specific critical care training will enhance patient safety and allow nurse practitioners and physician assistants to practice at the full scope of their roles, including procedure-based skills.

MSHS in Rochester worked with colleagues in Arizona to develop the fellowship program. Mayo Clinic in Arizona offers a Physician Assistant Fellowship in Hospital Internal Medicine for three fellows per year. Initially a traditional hospitalist fellowship, the program now offers tracks in hematology/oncology and critical care, with one fellow per track. 

About the NP/PA Critical Care Fellowship

- First in the Midwest
- Starts Fall 2013
- 12 months in duration
- Didactic and clinical components
- Training alongside fellows, physicians and other nurse practitioners and physician assistants
- Applications accepted beginning February 2013
- Rotations in adult ICUs at Mayo Clinic Rochester, Nephrology ICU, Infectious Diseases ICU, Emergency Department, Nutrition/Diabetes
- Two fellowship positions initially, possibly growing to six



Wendy Liu

Tong Mei

ALUMNI PROFILES

Care providers from China start over as phlebotomists

Tong Mei and Wendy (Weihua) Liu weren't typical students in the MSHS Phlebotomy Program in Rochester. Both women had established careers in medicine in China when they came to the United States and are now working in lab services at Saint Marys Hospital.

Tong Mei's journey

Mei was an acupuncturist and professor of traditional Chinese medicine in the Division of Neurological Diseases at Affiliated Hospital of Shandong University in Jinan, Shandong. She saw about 30 patients per day. Mei came to the United States in 2006 after working at the hospital for more than 20 years.

"I didn't know anyone here but had searched online to find a field where I could get training to work in a medical center," she says. "I began learning English about a year before I came here." Mei was a nursing assistant at a nursing home before applying for the Phlebotomy Program, which she completed in 2010.

Michelle Kindt met Mei as a fellow student in the Phlebotomy Program. "I could tell Tong had a brilliant mind but sometimes had trouble with certain words, so I helped her," says

Kindt, a vascular access technician in the Emergency Department at Saint Marys Hospital. "She's a fun but hard-working individual who is always trying to improve her English and continually encouraging me to continue my education."

Mei is taking classes in medical terminology at Rochester Community and Technical College and also works as an acupuncturist at Rochester Clinic. "I like Mayo and its culture of teamwork and putting patients' needs first," says Mei. "I think I can do more with my knowledge and experience to help patients but cannot until my English is better. In China, we think more than we speak. I hope my actions and professional behavior speak much louder than my words."

Wendy Liu's journey

Liu was an obstetrician/gynecologist in Shenzhen, Guangdong Province, China, for seven years before coming to the United States. She performed hysterectomies and cesarean sections and delivered about 10 babies per day at Gongming People's Hospital.


She knew very little English before coming to America. She took a course to become a certified nursing assistant and worked at a nursing

home in Rochester before applying for the Phlebotomy Program. Liu completed the program in October and works as a laboratory service technician at Saint Marys Hospital.

"My father opened a clinic in my hometown. I grew up watching him care for patients and am comfortable doing it," says Liu. "I think I can do more, but my English needs to improve. I'm trying to improve my medical terminology, and I'm reading medical books in English. Working at Mayo, I get to practice my English every day."

Extra effort

Both Liu and Mei have volunteered in the hand massage program for patients and visitors at Saint Marys Hospital to practice their language skills and get to know Mayo better.

Shannon Newberg, Phlebotomy Program education assistant, was impressed with the women's dedication to the Phlebotomy Program and volunteering. "While they already had medical experience under their belts, they approach their Mayo experience as an opportunity. They were very appreciative, which was inspiring to everyone around them," says Newberg. 



Sarah Oakley

Michael Cevette

FACULTY PROFILE

Sarah Oakley: Committed to high-quality, high-technology teaching and learning

When Sarah Oakley, AuD, was an undergraduate at the University of Iowa, she knew she wanted a career that combined her love for helping people with her love of science.

“When I was looking at majors, and what would match my interests, audiology seemed like the best option,” Oakley says. “It’s a high-technology field that has a big impact on people’s lives.”

Her choice has proven to be an excellent fit. Oakley earned a bachelor’s degree in speech and hearing science, a bachelor’s in linguistics, and master’s and doctorate degrees in audiology. She completed a fellowship in audiology at Mayo School of Health Sciences in Arizona. In 2008, she joined the Department of Otorhinolaryngology at Mayo Clinic in Arizona as an audiologist.

“Medical centers that focus on education have it right.”

– SARAH OAKLEY

Today, Oakley leads the Section of Audiology’s cochlear implant clinical, education and research efforts. In November, she received the 2012 MSHS Distinguished Allied Health Educator of the Year Award.

“Sarah is so diverse in terms of her energy, interests and accomplishments in all categories — patient care, research and education. But she has an exceptional eagerness to learn more and go beyond where she is today. Because of that, she’s a magnet for students and an excellent teacher,” says Michael Cevette, PhD, head of the Section of Audiology, who nominated Oakley for the award.

Oakley has played an instrumental role in developing a mobile mentoring program within the Section of Audiology. The program involves filming audiology procedures and uploading the videos to iPads. Students are encouraged to take the computers with them wherever the videos may be helpful in learning.


“We’re a technology-driven department. We use hearing aids,

cochlear implants and other high-tech devices. So it seemed natural for us to incorporate technology into training our students,” says Oakley.

The videos allow students to spend the time required to review the procedures.

“This approach is a huge benefit because, obviously, clinicians cannot be available at all times to show a student how to do something,” says Oakley.

Oakley and the staff in Audiology plan to add more videos to the mobile mentoring program as well as update and improve current videos. She sees the program as part of Mayo Clinic’s overall commitment to high-quality education. And, she believes the benefits of that commitment go two ways.

“Medical centers that focus on education have it right,” says Oakley. “When you’re in an environment that supports education and is structured for learning, you’re set up to be a better clinician, even as you’re teaching others how to be good at what they do. It’s a win-win. I learn as much as my students.” 



Jennifer Neal

STUDENT RESEARCH

Premed student learns research process, scores Nice trip

Jennifer Neal, a premed junior at the University of North Carolina at Chapel Hill, completed the Clinical Research Internship Study Program (CRISP) at Mayo Clinic in Florida last summer. CRISP, a MSHS program, offers undergraduates opportunities to explore medical career aspirations while serving as members of clinical research teams at Mayo Clinic.

“I conduct research in a genetics laboratory in Chapel Hill and volunteer at a free clinic in Jacksonville, but I had not experienced the clinical research process prior to the CRISP program. It was an extremely valuable opportunity,” says Neal. She worked with Charles Burger, MD, a consultant in Critical Care Services and the Division of Pulmonary Medicine.

“I organized and analyzed patient data and worked with Dr. Burger to produce an abstract,” says Neal. “I learned how to write in scientific format and about the publication process. In February, I traveled to the Fifth World Symposium on Pulmonary Hypertension in Nice, France, to present a poster of our research.

“Dr. Burger challenged me to learn quickly and work independently, and I gained a valuable new skill set in a short period. I’m eager to learn more about the clinical research process.”

Neal, a Florida native, plans to apply for CRISP again this summer.

Research summary

Which exercise testing method best determines the disease state of pulmonary arterial hypertension patients?


Pulmonary arterial hypertension (PAH) involves narrowing of pulmonary arteries, which reduces pulmonary blood flow and results in right heart failure. Disease symptoms usually occur with activity. Traditionally, exercise capacity in PAH is assessed by a six-minute walk test. Prior to this research, there had been no direct comparison between the six-minute walk test and exercise testing using Shape-HF, a noninvasive technology which monitors respiratory gas exchange and heart rate during mild exercise.

This research aimed to determine

“Dr. Burger challenged me to learn quickly and work independently, and I gained a valuable new skill set in a short period.” – JENNIFER NEAL

if Shape-HF is more specific to PAH limitation and disease severity.

Based on a retrospective review of patient records, Neal and Dr. Burger identified significant correlations between the two methods (six-minute walk test and Shape-HF). They also found that Shape-HF provides additional physiologic parameters that may be more PAH-specific. Therefore, Shape-HF may represent a viable alternative to determine the disease state in PAH patients.

According to Dr. Burger, experts in pulmonary hypertension have long debated the specificity of six-minute walk testing for PAH. “Presenting the results at the World Symposium provided a platform to introduce an exercise assessment that may be more specific for PAH patients,” he says. 



Sean Hurley

Sean Loughran

Tyler Wetsch

STUDENT RESEARCH

Questioning the status quo

Nurse anesthesia students surprised by findings on Plavix

Through their research project in the Master of Nurse Anesthesia Program, Sean Hurley, RN, CRNA, Sean Loughran, RN, CRNA, and Tyler Wetsch RN, CRNA, learned the importance of questioning the status quo.

“We realized there’s a lot that we do every day and take for granted. There’s not always good evidence to support why we do things,” says Hurley.

The trio, who graduated in March 2013, worked with Robert Trousdale, MD, a consultant in the Department of Orthopedic Surgery; Adam Jacob, MD, a consultant in the Department of Anesthesiology; and Nurse Anesthesia Program Director Mary Shirk Marienau, RN, CRNA. They examined a hot topic in orthopedic surgery and, therefore, anesthesiology: *Should Plavix, the platelet inhibitor clopidogrel, be continued or discontinued in patients with stents who have elective orthopedic surgery?*

“There isn’t good consensus on this topic, and there is very limited research about the continuation of Plavix with elective surgery,” says Dr. Jacob.

Physicians have been operating under these assumptions:

- Continuing Plavix can increase the risk of bleeding during surgery. Therefore, conventional practice is to discontinue it.
- Discontinuing Plavix in some patients has led to a heart attack.

Research summary

The new Mayo research confirmed that the drug increases the risk for bleeding and found that patients who continued Plavix were more likely to receive a blood transfusion within 24 hours of surgery and during hospitalization. Surprising to the researchers — and contrary to what has been believed about Plavix — the research found that the incidence of an adverse cardiac event within 30 days was greater, although not significant, when Plavix was *continued* — not discontinued.

“Our study was small and retrospective, which limits our ability to make firm conclusions, but it could be that Plavix can increase the risk for bleeding and heart events,”


says Dr. Jacob. “We were surprised by the result regarding cardiac events. Surgeons who routinely leave patients on Plavix for elective surgery may want to think twice about it.”

Hurley, Loughran and Wetsch developed the data collection tool, reviewed charts, collected data and worked with statisticians.

“Working hand in hand with Drs. Jacob and Trousdale at the grassroots level of a research project was exciting and forced us to keep asking why and take the time to figure out the answers,” says Loughran.

The team presented its work at the 2012 American Association of Nurse Anesthetists conference in San Francisco in August. The research findings are being prepared for submission to a journal.

Hurley, Loughran and Wetsch work at Mayo Clinic and plan to pursue doctorate degrees in nurse anesthesia.

“Mayo Clinic provides the ideal environment to hone our skills and optimize the learning experience,” says Hurley. “It would be a tough place to leave.” 



Rita Gasser

STUDENT RESEARCH

Role of platelets in spread of cancer

Delving into implications for anesthesia team

Recent literature reviews about an emerging issue in platelet transfusion — the ability of platelets to drive the spread of cancer — have been geared toward experts in platelet and cancer cell biology. Members of a patient’s surgical anesthesia team, however, need to be aware of this complex issue.

Rita Gasser, RN, CRNA, summarized existing literature on the topic in a review format for the anesthesia team. Gasser, who completed the Master of Nurse Anesthesia Program in March and is working as a nurse anesthetist at Mayo Clinic in Rochester, worked with John Sill, MD, a consultant in the Department of Anesthesiology.

“I didn’t have previous research experience but quickly learned how to approach a complex subject and understand it piece by piece,” says Gasser. “I hope this review affects

how anesthesia providers evaluate blood and platelet transfusion in surgical patients.”

Gasser presented her project at the 2012 American Association of Nurse Anesthetists conference in San Francisco in August and at the Mayo Clinic Nurse Anesthetists Research Symposium in October. She also presented a poster at the Minnesota Annual Meeting for Nurse Anesthetists in October. She is working on a manuscript to submit for publication.


Research summary

Recent discoveries indicate that platelets can powerfully drive the spread of cancer in four ways:

1. Cancer cells cause the activation of platelets, the expression of platelet-adhesion receptors and the formation of platelet-tumor cell aggregates in the

bloodstream. Platelets that adhere to cancer cells hide them from lymphocytes that could destroy them.

2. Platelets that attach to cancer cells express adhesion receptors and allow the aggregate to adhere to blood vessel walls and invade underlying tissue.
3. Activated platelets release factors that enhance tumor cell survival and drive cancer growth.
4. Activated platelets release angiogenic factors that stimulate blood vessel growth within the metastasis, enhancing survival of the cancer cell.

“Scientific discoveries have magnified decisions about platelet transfusion therapy, and this synthesis of information will help to inform the anesthesia team about the role platelets play in driving cancer as these complex decisions are made,” says Gasser. 

“I hope this review affects how anesthesia providers evaluate blood and platelet transfusion in surgical patients.”

– RITA GASSER



Three MRI technologists spot metal in patients' bodies

Their diligence helped avoid potential harm

In a one-week span in late October, three magnetic resonance imaging (MRI) technologists at Mayo Clinic made excellent safety catches — noticing unexpected metal devices in patients that had the potential to cause harm.

Paul Weishaar, RT(R)(MR), Robert Warzenski, RT(R)(MRI) and LuEvan Padgett, RT(R)(MR) are alumni of the MSHS Radiography Program.

Ferrous metal in the MR suite is dangerous and potentially lethal, says Weishaar. The MR scanner is essentially a powerful magnet, with a force 30,000 times stronger than the earth's magnetic field. "Even a paper clip, forgotten in a pocket, becomes a dangerous projectile in the MR suite," he says. Ferrous metal in a patient's body would be subjected to that same magnetic force.

Metal in the eye

Last fall, Weishaar was performing a pre-MRI screening, and the patient was uncertain about the presence of any implanted devices. Weishaar investigated further and tracked down a head CT that revealed a small metallic object in the patient's eye. The MRI was appropriately canceled.

The patient could not account for the finding, and nothing was apparent in the electronic medical record.

The object was a tiny metallic ocular shunt implanted for treatment of glaucoma. This particular device is considered safe to scan two weeks after surgery.

"Paul asked the right questions," says Robert Watson, MD, PhD, chair of Mayo Clinic Radiology's MRI Safety Committee. "This incident shows why it's important for technologists to have a questioning attitude and willingness to go the extra mile to address potential safety concerns."

'Blowout' in abdomen

The same week, Warzenski and Padgett were working together, starting a MR scan of a patient's lumbar spine. The initial scout image showed a big "blowout," a visual on the screen indicating an unexpected, substantial metallic object in the abdomen.

"Bob and LuEvan did a great job on this," says Dr. Watson. "They stopped the scan. No one on the medical team with the patient immediately knew what the object was."

Recognizing that this unknown metallic object could potentially cause

severe injury, the patient was removed from the magnet in accordance with the accepted MRI safety procedure. The patient was not injured.

Camera in a capsule

The MR team eventually learned that the "blowout" was due to a tiny digital camera in a capsule. The patient swallowed the device days before to assist with a gastrointestinal diagnosis. It had not yet passed.

"We had never run into this before," says Warzenski. And Mayo Clinic does about 275 scans a day on the 28 MRI scanners on the Rochester campus.

"That camera in a capsule is unsafe in MR and had the potential to harm the patient, possibly causing an intestinal perforation," says Dr. Watson. Now, Mayo Clinic is piloting the use of wristbands on patients with this device.

These incidents are prompting further efforts to establish a dedicated site in the electronic medical record to identify patients' implanted devices. And these technologists welcome careful communication about metal objects in bodies. "I'm the one to put the patient in the scanner," says Warzenski. "You just have to be careful."



MRI technologists LuEvan Padgett, Paul Weishaar and Robert Warzenski take their frontline safety role very seriously. Recently, they cancelled or stopped MR scans until metal objects in patients' bodies could be explained.

Alumni profiles

LUEVAN PADGETT, RT(R)(MR)

Education: Graduate of the first MSHS Radiography class, 1984

Work experience: Mayo Clinic general X-ray, 1984 to 1988; MR since 1988

Her thoughts on change in the profession: "With more new medical technology, there's more we need to be aware of and monitor. At first, we'd never think of doing patients with pacemakers and now we are doing them. There's always something new."

PAUL WEISHAAR, RT(R)(MR)

Education: MSHS Radiography Program, 1999


Work experience: In college, he worked as an orderly in a hospital radiology department, piquing his interest in the profession. He joined Mayo Clinic in Rochester in 1996, transferred to Mayo in Arizona in 1999, and returned to Rochester in 2003.

His thoughts on safety: "As health care continues to adopt new treatments with devices — implanted, ingested and on the body — we need to follow stringent safety guidelines. Without adequate safety procedures, MR has a strong potential to injure or cause harm."

ROBERT WARZENSKI, RT(R)(MR)

Education: Bachelor's degree in psychology; Monmouth University, West Long Branch, N.J., 1974; MSHS Radiography Program, 1990

Work experience: Joined Mayo Clinic in Rochester in 1990. A New Jersey native, Warzenski worked as a tractor driver for a consumer products company for 12 years before enrolling in MSHS at age 36, following the recommendation of a friend.

His inspiration for quality patient care: He recalls his grandmother who complained about "mean" X-ray technicians she had encountered. Says Warzenski, "I always hear her voice in the back of my head!" 

SCHOOL NEWS

New student record system launched

A new student record system has brought Mayo School of Health Sciences, Mayo Medical School and Mayo Graduate School in line with other colleges and universities.

The system, called Banner, tracks students from application to graduation and is a central repository for student information, including academic history and transcripts, billing and payments, and financial aid, including scholarships and loans.

Eventually, MSHS students will be able to register for classes online. Faculty can review academic information for students, enter grades and post their office hours.

"This system simplifies so many aspects of record keeping for students, faculty and the school," says Dave Dahlen, director of financial aid and registrar for the College of Medicine, Mayo Clinic. "We're pleased to have it up and running."



College of Medicine student academic data from as far back as 1915 was migrated into the integrated Banner system. Banner is a commercial product used by many colleges and universities around the world.

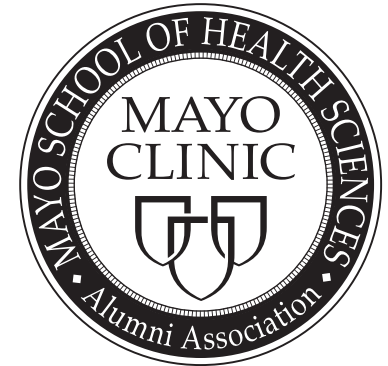
BANNER HIGHLIGHTS

Students can:

- Check financial aid status
- Check accounts and pay tuition
- Review and print unofficial academic transcripts
- Register for classes online

Faculty can:

- View class lists
- Enter grades online
- Review advisee academic information
- Post their office hours



Stay connected

[Volunteer for MSHS Alumni Association Board](#)

To be considered for service on the Mayo School of Health Sciences Board of Directors submit a letter indicating your interest.

Applications are reviewed by a nominating committee to ensure broad representation of MSHS programs.

The 25-member Board of Directors votes on recommendations put forth by the nominating committee.

Board terms are for three years. Board members return to Mayo Clinic each spring for an annual meeting; travel expenses are reimbursed. Board members provide direction for programming and activities of the MSHS Alumni Association.

For information, contact:

Deborah Oscarson,
alumni relations coordinator
507-538-2317
mshsaa@mayo.edu



FACULTY

Phlebotomy Program director with decorating flair

A way from classrooms and labs, there’s another side to Mary Kaye Peterson, Phlebotomy Program director. She’s a shopper, crafter, recycler, decorator and one of the creative forces that transformed Mayowood into holiday splendor. Each November, the 38-room mansion is dressed in holiday finery and open for tours.

Mayowood was built by Charles H. Mayo, MD, in 1911. Family members lived there through the 1960s when it was donated to the Olmsted County Historical Society. In 2012, Mayo Clinic agreed to finance much-needed renovations and take over ownership of the home.

Peterson and her sister, Michelle Kerber of Minneapolis, were entranced with the 2011 Mayowood holiday tour and asked about decorating a room in 2012. Volunteers were welcome, and the sisters began developing ideas for the music room.

Most volunteer decorators work with groups or for area businesses. Peterson and Kerber were on their own, with no budget and only their combined family decorations to start. They collected ideas from magazines and went treasure hunting at Savers, Goodwill, the Salvation Army and dollar stores.

Peterson’s favorite find and creation: aged sheet music transformed into elegant tree ornaments. “We heard comments that our tree was beautiful and the desk display was one of the best ever in the music room in more than 20 years,” she says. “We were honored since neither of us have formal decorating training.”

This duo is hooked on Mayowood’s holiday glam. They are collecting ideas and decor to decorate a bedroom in 2013.



Phlebotomy Program Director Mary Kaye Peterson, right, and her sister, Michelle Kerber, decorated the Mayowood music room in holiday finery.

Mayowood tour photos provided by the History Center of Olmsted County

ALUMNI

Nominations open for 2014 MSHS alumni award

While the 2013 Recognition of Outstanding Contribution award will be announced at the Alumni Association meeting April 26, we're already seeking nominations for the 2014 award winner.

It could be you!

The Alumni Association will consider graduates who are:

- Dedicated to service of patients
- Promote the art and science of medicine through the education of students — in a clinical or academic setting
- Participate in and/or encourage research
- Are leaders in their field
- Are involved in community service
- Have made contributions to underserved populations or provide services in challenging situations
- Are involved with MSHS

Self-nominations are encouraged. More information and the nomination form are available at <http://www.mayo.edu/alumni/>. This recognition will be presented at the Alumni Association annual meeting in the spring of 2014. Travel expenses will be covered for the recipient.

The nomination deadline is Jan. 31, 2014.



Mayo School of Health Sciences programs

- | | | |
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| Audiology | Genetic Counseling | Perioperative Nurse |
| Cardiac Electrophysiology | Health Information Management | Pharmacy |
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| Cardiovascular Perfusionist | Histology Technician | Physical Therapy |
| Central Service Technician | Medical Laboratory Sciences | Physician Assistant |
| Child Life Specialist | Medical Social Services | Radiation Therapy |
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For current program director contacts and email addresses, visit www.mayo.edu/mshs

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We welcome alumni and student news

Your comments, academic and career news, and story ideas are welcome. Send to: Editor, *Connections* / Mayo Clinic / Siebens 5 / 200 First St. S.W. / Rochester, MN 55905 / Email: connectionsmanager@mayo.edu

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Connections is published three times a year and mailed free of charge to alumni, students and friends of Mayo School of Health Sciences (MSHS).

MSHS has a distinguished history of preparing students for successful careers in the health sciences. Mayo Clinic has been training allied health professionals for more than 100 years.

About 1,590 students are enrolled in more than 139 MSHS programs representing more than 60 health sciences careers. Programs are available at Mayo Clinic campuses in Arizona, Florida and Rochester.

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Deborah Oscarson,
Alumni Relations Coordinator
507-284-2317
Email: mshsaa@mayo.edu

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Tales of real technology wonders

From tiny appendix-retrieving robots to the benefits of magnetic nanocrystals

MSHS ALUMNI ASSOCIATION ANNUAL MEETING

Mark Warner, MD, Mayo Clinic anesthesiologist and executive dean for Education, will speak on “Star Wars Technology That Impacts Medicine and Everyday Life.” He’ll share stories about amazing medical advances, many already benefiting patients.

The event is free for alumni. Register at www.mayo.edu/alumni. See page 9 for details.

APRIL 26, 2013 | ROCHESTER, MINN.

5:30 p.m. – Reception

6:15 p.m. – Program

7:15 p.m. – Dinner