Restoring vision for corneal transplant patients
We are approaching the 30th anniversary of our first graduating class of 1981. Each of the 22 members of the charter class continues to practice medicine, the majority in South Carolina. This significant milestone marks the remarkable past of the medical school that laid the foundation for our progressive and exciting future. As profoundly stated by Dr. Randy Suarez, class of 1981, “There was a focus on innovation and education, not tradition.”

That continued sense of forward thinking is what we focus on in this edition of *South Carolina Medicine*. We highlight some of our promising research endeavors such as Dr. Jennifer Nyland’s studies on toxicology and auto-immune diseases and the implications on human health, and Dr. Miroslav Cuturic’s research findings on sleep patterns in patients suffering from Huntington’s disease. We delve into some of the unique areas of our clinical practice, such as a particular type of corneal transplant performed by ophthalmologist Dr. Kristiana Neff. Also featured in this edition is a special “insider’s look” at the journey medical students take to decide on their area of medical practice.

The University of South Carolina School of Medicine’s culture of transforming medicine is a function of its people. I’m proud to work with more than 2,000 faculty and staff whose actions advance and nurture our exceptional medical programs every day. Many of the talented and dedicated individuals are mentioned by name in this issue of *South Carolina Medicine*, including physicians, scientists, educators, students, donors, alumni, staff, and community leaders.

We are proud to count them—and all of you—as our partners on this journey to advance the future of health care in South Carolina and beyond.

Sincerely,

Richard A. Hoppmann, MD
Dean
To be or not to be
Getting into medical school might be easy compared to the sometimes difficult task of figuring out what kind of doctor you want to be.

Managing wellness
Pediatric endocrinologist Malaka Jackson, MD, devotes nearly as much time to educating her young patients and their parents as she does to treatment.

East meets west
Following a fortuitous collaboration at the 2010 Olympics, School of Medicine sports physicians have found an opportunity to export their medical knowledge to China.

Rarefied air
University Specialty Clinics is providing global leadership in training for the use of hyperbaric medicine.

The toxic trail of quicksilver
An environmental toxicologist is finding evidence that low-dose mercury exposure is linked to the onset of autoimmune disease.

Clear sighted invention
Ophthalmologist Kristiana Neff, MD, is the only physician in the Midlands who can perform a specialized corneal transplant procedure.

Heartbreak of Huntington’s
The School of Medicine’s neurology department is providing clinical support—and hope—to a special group of patients and their families in South Carolina.

The case for scholarships
Katie Marie Chambers pursues her dream of caring for children with disabilities despite the heavy load of student loan debt.

www.med.sc.edu

SOUTH CAROLINA MEDICINE
Vol. 20. No. 2, 2010 A publication for alumni, associates, and friends of the UNIVERSITY OF SOUTH CAROLINA SCHOOL OF MEDICINE
Published by the School of Medicine, University of South Carolina, Columbia, SC 29208
To be or not to be

"For me, no matter how much I thought about it, my decision was a calling."

WILL BYNUM, MD
Going to medical school means you’re going to become a doctor—that’s obvious enough. What might not be so obvious is deciding what kind of doctor to become.

Some medical students settle on a particular specialty to pursue and never change their minds. For others, making that momentous decision requires lots of soul searching and seeking out mentors and advisors. Ultimately, it means arriving at an understanding of what’s important about being a doctor.

“Part of it for me was in evaluating what I wanted my life to look like,” said Kelly Dion, MD, a 2009 graduate of the School of Medicine now in her second year of a general psychiatry residency at Palmetto Health Richland in Columbia.

Dion initially thought she’d specialize in surgery, but changed her mind after she completed a third-year psychiatry rotation and loved it. “I want to be happy in what I’m doing,” she said.

“It’s all about finding a specialty you can see yourself doing,” said Chris Huffman, MD, another 2009 graduate in the second year of an internal medicine residency at Mt. Sinai Hospital in New York City. Huffman, who eventually plans to enter cardiology, considered emergency medicine while he was in medical school but settled on internal medicine because its continuity of care appealed to him.

“It’s a process of elimination,” he said. “Emergency room physicians treat patients who then might be passed on to a primary care team that takes over and follows up. The emergency room physician doesn’t get to see the resolution of the case. That was just something I wasn’t ready to give up.”

“For me, no matter how much I thought about it, my decision was a calling,” said Will Bynum, MD, a 2010 graduate and class president who is in his first year of a family medicine residency at the DeWitt Army Community Hospital at Ft. Belvoir, Va.

Bynum, who completed his medical training on a military scholarship and is now a captain in the U.S. Air Force, entered medical school thinking he would go into primary care, spent “a long time trying to convince myself that I belonged in specialty medicine,” then returned to his first inclination, realizing that he really was suited for family medicine.

His decision came after he spent a two-week rotation working with a rural family doctor in Sumter who Bynum said was “adored by his patients.” Bynum describes a realization that was “like a light bulb coming on,” revolving around the idea that family medicine is centered on the patient.

“The medicine, diagnostics, the routine follow-up—it all ultimately comes back to the patient and that is something I realized I believed in and was something I wanted to be a part of,” he said. “I woke up one morning and told my roommate I was going to be a family medicine doctor. I think it took a lot of my friends and family by surprise.”

Bynum’s rotation with the family doctor that became the basis for his career epiphany was one of many opportunities provided “from day one” by the School of Medicine that help students work through their decision, said Nancy Richeson, MD, assistant dean for clinical assessment and curriculum.

“Much like it might take a village to raise a child, it takes a concerted effort of faculty and staff to raise a medical student. There are many offices around campus where this occurs that we don’t even know about,” said Richeson, noting that a 2010 AAMC graduation survey of USC School of Medicine students indicated that the majority of the students were most influenced in their career decision by advising/mentoring, role model influence, future family plans, work/life balance, the fit with personality, interests, and skills, and the content of the specialty.

Students can:
• shadow Columbia-area physicians in their first and second years
• attend discussion groups where students can explore a variety of subjects, from ethical issues to professional dilemmas
• use career decision-making tools developed by the Association of American Medical Colleges (AAMC), including a first-year series of seminars that walk students through developmental activities
• complete individual AAMC learning modules and Web sites where students can learn more about themselves
• and enroll in elective courses that allow students to become acquainted with specific medical specialties.
“Students have a shared drive that I hear about from them constantly,” Kenney said. “It’s teamwork and people working in groups, whether it’s students working with faculty mentors, advisors, or interest groups. Everybody’s working together.”

When students finally do decide on their specialty, “You can see it in their eyes when you talk with them,” said Joshua T. Thornhill, MD, associate dean for medical education and academic affairs, who said the decision often boils down to “falling in love with a specialty, and the people in the field.”

“From my own personal experience, it ultimately came down to the patients and the physicians I met in mentoring experiences” said Thornhill, who started his medical school studies thinking he wanted to go into family practice and later elected to go into psychiatry.

“Students will tell me, ‘I want to be like Dr. Jones, he treats his patients so well, they love him, and he does so much good for the community.’ I think that’s really what drives our students a lot of times toward a specialty—they found that person they really match up with and want to be like.”

That was the experience Dion had in her psychiatry rotation. She ended up getting hooked when she began working with children and adolescents and found herself looking forward to seeing them.

“I was really attracted to the people in the field and thought that maybe I had a little bit of a knack or some natural tendency for it,” said Dion, who worked with patients who had been found not guilty by reason of insanity or were incompetent to stand trial. “I was so excited when I’d come home and be able to talk about what I was learning. I was quite surprised by my decision and how my personality played into it.”

Dion was even affected by the reaction of her then fiancé (and now husband) who remarked, “You seem to enjoy this so much more, why would you choose anything else?”

“lt was what stimulated me to learn more and made me want to read research articles and spend extra time looking things up,” she said. “No other clerkship interested me in that way.”

Huffman was drawn to internal medicine because it’s a broad intellectual field with a lot of basic science and clinical literature that goes into decision making.

“You get to deal with lots of different systems, there is a wide variety of diseases and conditions, and every case is different,” he said. “It doesn’t get routine and it also has the potential for a lot of specialization. We saw a lot of interesting cases in my internal medicine rotation and there is a lot of teaching and thinking.”

Though Bynum stayed with primary care, the specialty he first considered when he entered medical school, he became very interested in and considered a number of other specialties later in his medical studies because he was genuinely interested in them and passionate about those types of medicine.

But late in his third year he decided he could make the biggest difference as a physician in family medicine. One of the deciding factors was acknowledging that his personality traits were probably best used in the outpatient setting in a field where he could maintain continuity of care with patients.

“This [decision] was partly a gut feeling, it came down to more than simply feeling right,” he said. “I felt that I was being called to family medicine, and realizing this gave me a significant degree of confidence that I was making the right decision even when I attempted to reason otherwise.”

Even with advice from Richeson, Kenney, and Thornhill, who all tell students to enter a specialty “only if you love it,” Bynum acknowledged that other factors still tug at medical students’ decision-making. Too often, he said, those other factors pose the danger of playing too large a role in the decision, including lifestyle, the number of hours worked, and reimbursement and salary.

“Those are all legitimate things to consider, but I don’t know that they always guide people into the field in which they would be the most effective, or even the happiest,” Bynum said. “A lot of times somebody’s instinctive thinking about what would be best for them is overridden by considerations such as lifestyle and reimbursement.”

That prompts Bynum to tell today’s upcoming medical students considering their specialty to choose a field in which:
- they’ll be happiest and the most stimulated and engaged, because a happy doctor who loves his or her work is a good doctor
- they can maximize their strengths and minimize their weaknesses
- they can make the biggest difference in the system and in the lives of their patients.

“I think if you base the decision on those three factors rather than putting too much weight on financial and lifestyle issues, we’d have a different health care system,” he said.
Malaka Jackson, MD, deals with patients whose medical conditions—including diabetes and other endocrine-related disorders—are among the most complex to understand at a molecular level.

But ensuring that her young patients and their parents understand what’s going on is critical for Jackson, a pediatric endocrinologist who finds ways to translate medical jargon into plain English.

“We try our best to educate because if parents understand what’s happening, it helps invest them from a medical standpoint,” said Jackson, an assistant professor of clinical pediatrics in the School of Medicine’s Division of Pediatric Endocrinology.

Many of Jackson’s patients have either Type I or Type II diabetes. Type I is an autoimmune disease in which insulin-producing cells in the pancreas are destroyed, disrupting the body’s ability to regulate blood sugar levels. Incidence of this type of diabetes is stable.

Type II is an insulin resistance disorder often caused by poor diet, obesity, and lack of exercise; insulin-producing cells are overworked and begin to shut down. Incidence of this type of diabetes is sharply on the rise.

“We advise parents of diabetic children to keep their kids active, to try to steer them toward healthy foods, and beware of sweetened drinks and juices—an overlooked source of many calories,” she said.

One of the challenges of treating young diabetic patients can be the need for re-education as they grow older, Makala said.

“Being treated for diabetes as a child is like riding in a car,” she said. “You’ve been riding in the car all of your life, but you haven’t been instructed on how to drive it. When you turn 16, no one would just hand over the keys and expect you to drive. You have to be taught all of the things that your parents have learned about managing diabetes.”

Besides young patients with diabetes, Jackson treats many children—some as young as four or five years old—with early onset puberty, often caused by a dysfunctional thyroid or hormonal imbalance.

“There’s always a concern of tumors with early onset puberty, but even when you eliminate that as a possibility, there are psychosocial consequences of secondary sex characteristics becoming apparent at that young age,” Jackson said.

“And there is a height issue, too. Young girls who undergo puberty that young will have a higher peak growth rate, but the growth will last for a shorter period of time. So they might end up as adults at 4’-6” tall.”

Clinicians and scientists don’t yet know what causes early onset puberty, although one culprit might be the high volume of birth control medications excreted, then processed in sewerage systems, Jackson said.

How did Jackson settle on pediatric endocrinology as a specialty?

“Indirectly, endocrinology chose me,” she said. “I started in pediatrics, my first rotation was in endocrinology, and I kept ending up with endocrine disorder patients in subsequent rotations.

“I like taking care of children and seeing them and their families for long periods of time. You get to know them well, and that’s very rewarding.”

In addition, many pediatric endocrinology patients are not acutely ill. “We don’t often have to tell a parent that their child has a brain tumor, although that does happen,” she said. “More routinely, we are managing chronic conditions over time, and, with patient compliance, that can have good outcomes.”
East meets west

USC’s School of Medicine scored gold with an ongoing relationship with the Chinese health care system.

While U.S. athletes netted 110 medals at the 2008 Olympic games in Beijing, the USC School of Medicine scored success there, as well, with a long-term opportunity to share medical expertise with Chinese hospitals.

“Our mission has been to provide a local and regional resource for sports medicine in South Carolina and the Southeast, and now we’re moving beyond that,” said Jeff Guy, MD, an assistant professor of orthopedic surgery who was part of an American team of sports physicians for Team USA during the Beijing games.

Guy also is director of the School of Medicine’s Division of Sports Medicine, a partnership between the departments of Orthopedic Surgery and Family Medicine that provides health care for USC athletes, as well as for professional, high school, and recreational athletes.

While in Beijing, Guy worked with the Urgent Orthopedic Program that provided emergency care for U.S. athletes and other members of the American delegation. He and other team physicians also worked in the emergency room of the Beijing United Hospital and took part in a series of free lectures for members of the Chinese medical community.

The Urgent Orthopedic Program was created by a U.S.-based firm to provide western medical services for Americans and other nationalities living in China and other countries. After the games, the Olympic collaboration led to development of the Institute for Western Surgery in China to further advance medical relationships with the Chinese and serve international patients living in China.

As part of the institute’s work, Guy returned to Shanghai and Guangzhou this past March to help set up surgical procedures at Guangdong Provincial Hospital System. American doctors have visited the hospital for two-week visits, consulting with international and Chinese patients, performing surgical operations, and providing education to the hospital’s physicians and staff members. Visiting physicians have also worked in Shanghai and Hong Kong.

Guy was followed in April by faculty colleague Christopher G. Mazoué, MD, an associate professor of orthopedic surgery and fellow USC team orthopedic surgeon, who came away from the experience with a new appreciation for the differences in U.S. and Chinese health care systems.

“It’s important to learn about other cultures’ systems as we move forward with the obvious challenges in our own system,” said Mazoué, who spent three months in Norwich, England, during his residency where he developed his first impressions of health care systems outside of the United States.

As may happen in China, a burgeoning private insurance system was developing in England separate from the government-run national health care system due to demands of the market. I greatly value the opportunity to see the differences in health care systems in Europe and the Far East.”

Guy returned from his second visit to China with the realization that in comparison to American high schools, sports medicine coverage in Chinese high schools is woefully inadequate. As a result, he and Mazoué were instrumental in the start-up of a new program in August that is sending four recent Carolina athletic training program graduates to work in four American high schools in Guangzhou and Shanghai.

The effort has drawn on the expertise of James Mensch, Ph.D., a clinical associate professor in the USC College of Education’s Department of Physical Education. Mensch is the program director for athletic training who traveled to China to help with program development. The Darla Moore School of Business at USC also helped with guidance in getting needed travel documents and collaboration in areas like language support.

“We’re really excited about the outside training aspect of this program as well,” said Guy, a graduate of the Harvard School of Medicine and a fellow of the American Sports Medicine Institute.

“It’s going to be a tremendous resource that will continue to grow.

“The exciting thing for me about this is that I spent very little of my training overseas and just being in a different country has been a great experience.

“Part of our mission at the medical school is expanding relationships and collaborating with other people and entities that are involved in similar care. This has been a great way for us to provide sports medicine care while at the same time branching out to work with other parts of the University.”
“If you have a diabetic wound or foot problem that’s fairly severe, the hyperbaric treatment improves your immune system so the white blood cells work better.”

LINDSIE CONE, MD
Lindsie Cone, MD, makes the procedure sound simple enough. “It’s basically a Plexiglas tube about three feet in diameter. If the patient is alert and ambulatory, they slide in there and pick a movie, watch TV, or sleep.”

Cone, as associate professor in the Department of Family and Preventive Medicine and medical director for Palmetto Health Richland’s hyperbaric medicine program, says the only real side effect of the hyperbaric chamber is the same pressure you feel in your ears with altitude changes. “For the most part, the patients just sort of lay there and do their 90 minutes, and that’s it.”

But the results? Now that’s something patients don’t take lying down. Cone, one of a few physicians who are board certified in undersea and hyperbaric medicine and is happy to be pushing the boundaries of what he finds to be a fascinating field. Hyperbaric medicine’s origins date back nearly 150 years when decompression illness, or caisson’s disease, was first noticed. Divers and workers building bridges who were underwater for periods of time experienced decompression illness, so chambers filled with high-pressure air were created so they could be slowly decompressed.

As research progressed, hyperbaric—or high-pressure—air was replaced with high-pressure oxygen, and that brought significant advantages. Today, hyperbaric medicine treats about 15 ailments approved by the Undersea and Hyperbaric Medical Society, ranging from diabetic wounds to cerebral arterial gas embolism, gas gangrene, and flesh-eating bacteria.

Treatment plans can vary greatly according to the problem being addressed. Decompression illness usually calls for about nine hours of treatment, while more chronic problems, such as radiation-injured tissue, might require 20 to 30 separate treatments over weeks or months.

At the University Specialty Clinics, patients are treated in a monoplace chamber—a small chamber that fits one patient. Most have diabetic wounds or soft-tissue radiation injury.

“Folks who have cancer and have had curative doses of ionizing radiation may experience problems ranging from cystitis to problems with the bladder, bowels, rectum, skin and soft tissue, and larynx,” he said. “We are the only treatment that addresses those types of issues.”

So, how exactly does hyperbaric medicine work?

“If you have a diabetic wound or foot problem that’s fairly severe, the hyperbaric treatment improves your immune system so the white blood cells work better. They are able to kill bacteria by providing more oxygen to the area. Antibiotics require oxygen as a substrate for the mechanism by which they gain penetration to bacterial or fungal cells, so hyperbaric treatment provides more oxygen for that process, as well.”

“[With hyperbaric treatment] we can actually kill bacteria that don’t like oxygen, the microaerophilic or anaerobic strains of bacteria, particularly clostridial disease,” he said. “And then we can inhibit or impair the production of certain toxins, namely those that are produced by gas gangrene.

“We also increase neovascularization—blood vessel growth,” a key problem in which patients with microvascular disease or radiation-injured tissues don’t get enough blood to the affected area.

Decompression illness is still very much a concern and an area of emphasis for Cone. He serves as the diving medical officer for the State Law Enforcement Division (SLED).

His group also trains members of the Navy and Air Force.

“We work with our men and women from Shaw AFB. We are very proud to be able to take care of our military—we can get rid of the bubbles that form during high-altitude decompression illness, but the treatment also protects the tissues from the inflammatory process that ensues. So we protect the nervous system, the joints, and other soft tissues.”

And it doesn’t stop there. “We’ve actually had some folks from NASA come as well. Cone said.

Hyperbaric medicine is still a fairly small specialty, “but it’s grown by leaps and bounds in terms of acceptance and how many patients actually see us. The growth of the industry has been worldwide, as well—we actually train more physicians here at Palmetto Health than anywhere in the world. We’ve even trained the physician for the crown prince of Saudi Arabia, and we have trained probably 6,500 health care providers over the past 25 years.”

Cone’s group at University Specialty Clinics is a leader in the field in terms of research as well, teaming up with faculty and researchers from the University’s Arnold School of Public Health and the School of Medicine.

“We try to keep three legs on the stool: service, education, and furthering knowledge based on research.” That three-pronged approach is producing clear and lasting results.
“That tweaking of the immune system’s pro- and anti-inflammatory markers is sometimes all that’s needed to initiate an autoimmune response.”

JENNIFER F. NYLAND, PH.D.
It seems inconceivable now, but mercury was once poured by the flask on mounds of gold-rich sediments during America’s 19th-century gold rush.

The toxic residue of that haphazard mining technique is still present in many old mining sites, and modern-day gold diggers in the Amazon continue to use the same dangerous method. Little wonder that the specter of mercury exposure continues to manifest itself around the world.

But the problem of toxic mercury exposure isn’t confined to rarefied occupations such as gold mining. And large-dose exposures aren’t necessary to cause life-threatening health effects. Recent studies at the University of South Carolina School of Medicine suggest that even modest levels appear to seriously alter immune system function.

Jennifer F. Nyland, Ph.D., an environmental immunotoxicologist in the Department of Pathology, Microbiology, and Immunology, is finding evidence that low-dose mercury exposure is linked to the onset of autoimmune diseases such as lupus.

“The levels of mercury I’m studying are not large—it’s the equivalent of the amount contained in one to two cans of tuna fish consumed weekly,” Nyland said. “What we’ve found so far is that these low-dose levels affect the immune system in serious ways.”

Using laboratory mouse models to study the phenomenon of low-level mercury exposure, Nyland and her research team have found that when combined with a viral infection, profound immune system alterations can occur in mercury-exposed mice.

“That tweaking of the immune system’s pro- and anti-inflammatory markers is sometimes all that’s needed to initiate an autoimmune response,” Nyland said.

In her animal model studies, Nyland has observed that offspring of mercury-exposed mice exhibit altered immune system responses even though the young ingested no mercury themselves and were only exposed through the mothers. It remains unclear as to whether prenatal exposure to mercury will predict later development of autoimmune diseases in adulthood.

While the precise biochemical pathways of mercury-induced immune system alteration are not known, it is apparent that inflammatory proteins called cytokines are produced that are markers of immune system alteration.

“I would be hesitant to extrapolate from animal studies to human health, but it might be wise for someone diagnosed with an autoimmune disease such as lupus to avoid eating [carnivorous] fish such as tuna,” Nyland said. “That might be one of the recommendations to come out of the research that’s going on in this field.”

Along with traditional laboratory studies, Nyland’s research is also taking her to remote regions of the Amazon where small-scale gold mining is exposing many workers there to mercury. Taking a cue from American prospectors who used mercury to extract gold in the 19th-century gold rush, Brazilian miners pour liquid mercury onto gold-containing sediments. The mercury binds with the gold, creating an amalgam that is heated, vaporizing the mercury and freeing the gold—and exposing the workers to dangerous levels of mercury.

Using non-invasive techniques, Nyland and her team have gathered blood samples from Brazilian miners, and then isolated the blood markers in the laboratory. This offers both a snapshot of what is in the miners’ blood (antibodies) as well as how their immune systems might have been altered by mercury exposure. The research has shown that many Brazilian gold miners carry blood markers associated with lupus—further evidence of mercury’s ability to alter the immune system and set the stage for the onset of autoimmune disease.

Nyland plans to use the same analysis in a proposed study of Midlands residents diagnosed with lupus. That study would involve collaborations with School of Medicine rheumatologist Jim Fant, MD, and R. David Parker, Ph.D., Division of Infectious Diseases.

“We’re expecting that their immune cells would respond differently than a healthy individual’s cells to mercury exposure in a laboratory dish, and we also want to compare that response with their mothers’ immune cell function,” Nyland said.

Modern exposure to mercury isn’t limited to industrial settings or haphazard use of mercury in small-scale gold mining. The element is a byproduct of combustion processes associated with coal-fired generating stations, and—because of its volatile nature—mercury is spread far and wide by rain, evaporation, and other atmospheric processes.

“You don’t have to live next to a generating plant or a mercury mine to get exposed to mercury,” Nyland said. “It’s everywhere and, unfortunately, mercury can bioaccumulate in certain fish, which can further our exposure to it.”
BOSTON KERATOPROSTHESIS CAN RESTORE VISION FOR PATIENTS WITH DAMAGED CORNEAS—ALMOST IMMEDIATELY.

For patients who have had failed corneal transplants and corneal blindness, Kristiana Neff, MD, offers a new choice for improved vision: the Boston Keratoprosthesis.

Boston Keratoprosthesis, Type I, is an “artificial cornea” that can be used in patients who have lost vision because of severe corneal opacity or cloudiness that could not be fixed with standard corneal transplantation. Neff is the only ophthalmologist in the Midlands—and one of only two in South Carolina—who does the procedure.

“Keratoprosthesis can give the patient a clear window that they can see through, and the return of vision is almost immediate,” said Neff, an assistant professor in the Department of Ophthalmology at the School of Medicine who joined the University Specialty Clinics about a year ago.

Invented by Claes Dohlman at Harvard University, the Boston Keratoprosthesis is made of clear plastic with excellent tissue tolerance and optical properties. It consists of three parts and, when fully assembled, has the shape of a collar button.

The device is joined to donor corneal tissue, which is then sutured in place of the patient’s cloudy cornea. If the natural lens is in place, it is also removed. The one-step surgery takes about an hour to complete. Patients sometimes see improved vision as soon as the next day.

For long-term safety after surgery, patients wear a therapeutic bandage contact lens and use prophylactic antibiotic drops daily to prevent infection.

“A keratoprosthesis is basically a really fancy piece of plastic that gets coupled to a piece of donor corneal tissue,” said Neff, who has been doing the procedure about three years and trained through a cornea fellowship at the Cincinnati Eye Institute. “We sandwich the donor cornea to the external plastic optic and the internal plastic backplate, and snap everything together with a titanium ring.

“The plastic in the center can never opacify or cloud over from rejection. Even when the outer edges of the device become opacified, patients will be able to see through it. It’s an option for people who previously had no other option for visual rehabilitation.”

Corneal transplantation (also called penetrating keratoplasty), involving tissue transplanted from human donors, is the most common treatment for severe corneal opacity; however, in some patients, the transplantation fails or a patient is not a candidate due to a poor ocular surface. Also, corneal transplants can take up to a year for patients to gain visual recovery.

“We have to hand sew the corneal transplant on to the eye, and it’s very difficult to suture them as perfectly as your cornea was naturally created. The irregularities in shape create astigmatism which blurs the vision,” Neff said. “Typically, it takes a year or so, through careful suture removal, glasses, or contact lenses, to get the vision rehabilitated. We even do secondary surgical procedures to reduce large amounts of astigmatism in some cases.”

“In contrast, keratoprosthesis is a piece of plastic that is created to be spherical in shape, thereby eliminating high astigmatism as a reason for blurry vision postoperatively.”

Another option to restore sight for patients with corneal problems from ocular surface failure is to transplant stem cells that are specific to the corneal epithelium, the clear, specialized skin found on the surface of the cornea. Tissue can be procured from a donor (keratolimbal allograft) or from the patient’s other eye (conjunctival-limbal autograft).

If the tissue comes from a donor, stem cell transplantation requires immunosuppressive drug therapy.

“For stem cell transplants, it’s the same immunosuppression that someone with a kidney transplant would get,” Neff said. “Usually, people are on the immunosuppressive drugs for an average of two years, although some people with a lot of inflammation can need them indefinitely. There are people whose systems cannot tolerate these potent drugs, therefore, stem cell transplantation would not be an option for them. In those tough cases, the Boston Keratoprosthesis can again be an option.”

Patients who have had corneal failure for reasons not related to chemical injury or autoimmune disease often see the best results from the Boston Keratoprosthesis. The procedure also can help patients who are not candidates for stem cell transplants, patients who cannot tolerate immunosuppressive drugs, patients who have experienced chemical burns, patients with autoimmune ocular surface disease, and patients who have corneal failure from other sources such as
“The plastic in the center can never opacify or cloud over from rejection. Even when the outer edges of the device become opacified, patients will be able to see through it.”

KRISTIANA NEFF, MD

too much eye surgery, medication, or contact lens complications.

The immediacy of vision return makes a keratoprosthesis a good option for older patients.

“People who are of advanced ages have more of a need for quick visual rehabilitation. The longer time for the recovery process from a corneal transplant and need to tolerate immunosuppressive drugs may not be viable options,” Neff said. “The keratoprosthesis gives an outlet for people who need more rapid visual rehabilitation, and it works really well for those patients. It’s been used for more than 30 years but mostly at Harvard. Now, it’s becoming more mainstream for corneal specialists.”

For Neff, ophthalmology, especially working with the cornea, is “one of the most rewarding professions.

“Working with the cornea lends itself to being one of the more gratifying fields in ophthalmology because you can make a big impact on how people function,” said Neff, who earned her medical degree from Indiana University and completed her internship in general surgery and residency in ophthalmology at the Medical University of South Carolina.

“For the vast majority of my patients, whether they need something more routine like cataract surgery to a keratoprosthesis, I can usually fix the problem, and restore their sight. I am grateful to be in a field where I can lend a hand and share in the life-changing process of visual rehabilitation. It’s very satisfying.”
Ultimately, we want to increase the rate of peri-partum and postpartum women seeking help, and to improve follow-up care for new mothers.

NIOAKA N. “NIKKI” CAMPBELL, MD

“The disease affects not only the patient but the entire family because the symptoms are so profound.”

MIROSLAV CUTERIC, MD
Huntington’s disease (HD) is a diagnosis of heartbreak—a rare, incurable illness that typically strikes in middle age, wreaking havoc on mind and body.

While the disease is always fatal and no pharmaceutical options can stall its onset, the University of South Carolina School of Medicine offers hope and support through a special clinic focused exclusively on HD patients and their family caregivers.

“The disease affects not only the patient but the entire family because the symptoms are so profound,” said Miroslav Cuturic, MD, a physician in the neurology department at the School of Medicine. “Patients typically deal with chorea—involuntary, uncontrollable movement—steady cognitive decline, and psychiatric disorders.”

The School of Medicine’s HD clinic sees about 20 patients weekly, providing medical management of symptoms, nutrition management, speech therapy, and genetic and psychological counseling.

“Patients and family members dealing with this disease need a lot of counseling,” Cuturic said. “Suicide is a major concern because Huntington’s is a genetic disorder, and they’ve likely seen other family members decline and die from it. They know what’s going to happen. That’s why we have an interdisciplinary support staff that includes not only medical staff but counseling professionals, as well.”

Treating HD patients on a regular basis gives School of Medicine clinicians ample opportunity to learn more about the disease, which, because of its rarity, is seldom seen by private physicians. The ability to treat HD patients on a regular basis is important, Cuturic said, because it helps build a significant amount of expertise in dealing with the very complex issues that are integral aspects of life for these families.

“Medical scientists have learned a lot about the cause of the disease, the location of the particular gene on chromosome 4 that mutates and creates an altered protein that damages specific areas of the brain,” he said. “It’s important to understand more about how this single gene affects and regulates each of the three sets of symptoms that appear in Huntington’s disease. The more we understand that, the more informed we’ll be about other neurodegenerative diseases that involve multiple genes.”

First described in medical literature in 1842, Huntington’s disease remains uncommon—as few as 4 in 100,000 contract the disease worldwide by some estimates. Countries such as Sweden and specific areas of Venezuela, Scotland, Wales, and Tasmania have a much higher prevalence, while Finland and Japan are much lower. In the United States, between 25,000 and 35,000 have HD with another 150,000 to 250,000 at risk for developing it.

Research is being carried out at multiple HD clinics around the country, including USC’s.

“We’ve conducted studies on sleep disorders associated with Huntington’s, comparing sleep patterns of patients and their family members,” Cuturic said. “Our studies revealed that Huntington’s causes frontal lobe dysfunction that creates an early breakdown of circadian rhythms, which regulate sleep.

“Huntington’s patients tend to have trouble getting to sleep, and we know that anything we can do to improve their ability to sleep is going to improve their quality of life and the quality of life for their caregivers.

“The real heroes in this are the patients. They know that the information we gather won’t likely help them, but it could help future generations of those diagnosed with Huntington’s.”

Future research at the School of Medicine will focus on developing a better understanding of HD patients’ circadian sleep patterns with an eye toward learning how to regulate those patterns.

“Our strategic goal is to join with other HD clinics to conduct larger-scale studies and gain a better understanding of the onset of the disease and its progression,” Cuturic said.

Ultimately, scientists around the world would like to develop a gene therapy protocol for the disease to correct the mutation and end its debilitating effects. “Unfortunately, medical science is still a long way from being able to use gene therapy as a tool for treating or preventing the disease. We have so much more to learn,” Cuturic said. ■
THE NEED FOR SCHOLARSHIP RESOURCES IS MORE URGENT THAN EVER.

Katie Marie Chambers, class of 2013, graduated summa cum laude with a degree in economics from the University of South Carolina and was all set to pursue a career in business. The birth of her son, Briggs, changed her life and her career plans.

“I knew right away that this was the place for me,” Katie Marie said. “I could sense the high level of support that I would receive from faculty and staff. No judgment—just genuine support. I was right.”

When her son was diagnosed with cerebral folate deficiency, a rare disorder in which the body attacks and destroys folic acid, Katie Marie became interested in the possibility of specializing in caring for children with disabilities. At age three, Briggs is still unable to sit up or walk on his own. And with a compromised neurological and immune system, he can spend days, even a month, in the hospital from myriad unforeseen complications.

“I often say jokingly that my home address should be the hospital because we spend so much time there with Briggs. My husband and I have spent more than 200 nights in the hospital in the past three years. We never know what we will face day-to-day,” she said.

Still, with so much responsibility to her family, medical school, and her continued community involvement, Katie Marie has no regrets about her decision to pursue medicine. In fact, she has been able to juggle it all and perform well academically.

“Despite the stresses of medical school, I continue to stay focused on the end goal...”

KATIE MARIE CHAMBERS, CLASS OF 2013
The backgrounds, educational interests, and experiences of our students are as diverse as the health concerns we face today, yet they share one common medical pursuit: a desire to advance health for the benefit of South Carolinians and citizens around the globe.

Each student brings a perspective that encourages an innovative and progressive atmosphere for medical education. Their passion in the classroom translates to expert clinicians at the bedside who provide exceptional, compassionate care.

Along with sharing the common goal of becoming physicians, many of our students are also faced with the same challenge of paying for medical school and incurring substantial student loan debt. To continue our legacy of training the best and brightest, especially those with ties to South Carolina, we must increase our scholarship endowment to attract and reward a greater number of exceptional students.

In 1981, the graduation year of our charter class, average debt for four years of medical education was $23,000. A recent study by the American Association of Medical Colleges found that 80 percent of graduating medical students have more than $100,000 in student loan debt. With scholarships in short supply, many worthy students might be deterred from attending medical school because of financial difficulty.

Philanthropic gifts such as scholarships enable the medical school to build a sizeable endowment that will support the next generation of physicians, thereby improving access to quality health care. Scholarships are the foundation by which medical students acquire tuition relief, helping aspiring clinicians and scientists to focus on medical education rather than being preoccupied with indebtedness. This is especially important for students at the USC School of Medicine, as many come from backgrounds where financial resources are limited. Scholarships broaden opportunities, allowing the best students to gain an exceptional education regardless of their economic background.

Stories like Katie Marie Chambers have inspired so many groups, organizations, corporations, and even individuals, to support medical students through scholarships.

To learn how you can add to the scholarship endowment or establish a new scholarship fund through several gift options, contact Mechelle English in the School of Medicine Development Office. Mechelle can be reached at 803-733-1567 or mechelle.english@uscmed.sc.edu.
GRADUATION 2010
May 7, 2010, marked the culmination of a four-year journey of challenging, intense work and specialized medical training as 76 aspiring physicians earned their medical degrees at USC’s School of Medicine. In addition to those students who officially become physicians, three received Ph.D.s in biomedical sciences, two received master’s degrees in biomedical sciences, seven received master’s degrees in genetic counseling, 26 received master’s degrees in nurse anesthesia, and three earned master’s degrees in rehabilitation counseling. During the commencement ceremony at the Koger Center for the Arts, graduates received their degrees, participated in the traditional hooding ceremony, and took a professional oath to mark the start of their medical careers. The commencement address was delivered by O’Neill Barrett, MD, former professor and assistant dean, who challenged them to become physicians who are not arrogant, but confident health care providers who are compassionate to patients and their families.

In addition to the degrees, several special awards and honors were presented during the ceremony:

FACULTY AWARD
O’Neill Barrett Teaching Excellence Award
Awarded to faculty members by the Class of 2009 in recognition of outstanding teaching during the four years of medical school.
Paul V. Catalana, MD
Craig W. Davis, Ph.D.
James Stallworth, MD

Dean’s Special Recognition Awards
Presented to graduating students who have combined outstanding academic achievement and commendable service to the school and the community.
Jonathan Ashby Davis, MD
Olga Raetskaya-Soltseva, MD

Dean’s Awards
Presented to the graduating medical students who, during their four years of study, have developed the highest attributes of the medical profession as reflected in academic and clinical achievement, devotion to patient care, and leadership among his or her peers.
Justin Marsh, MD
Brent Jerome Wilkerson, MD

STUDENT AWARDS
Dean’s Leadership Citations
Presented to students who have demonstrated outstanding leadership in service to the profession, community, and/or school.
William Edwards Bynum, IV, MD
Mary Elizabeth Nabers, MD

FIRST MINORITY SCHOLARSHIP REACHES ENDOWMENT GOAL
The quest to endow the School of Medicine’s Everett L. Dargan, MD, Scholarship—the first for under-represented minority medical students—has been achieved.

With a final gift of $98,000 from the Richland Memorial Hospital Research and Education Foundation (Palmetto Health), the scholarship fund reached its goal of $500,000. Deserving minority students will now receive additional financial support through the scholarship.

Having more African American physicians in South Carolina will help cultivate trust and improve the health of the state’s African American citizens. Fewer than six percent of all S.C. physicians are African American.

“Now that the goal has been met, Dargan Scholarship money will be available to recruit students who might otherwise attend schools outside of South Carolina,” said Carol McMahon, MD, assistant dean for minority affairs.

“This could not have been accomplished without the continued commitment and generosity of many individuals and organizations, as well as the support of School of Medicine leadership—notably Dean Hoppmann.”

“I sense this was a true labor of love for everyone involved,” said Dean Richard Hoppmann. “A special thank you to Dr. Dargan and his family for allowing us to use their name, outstanding reputation, and their years of commitment to this community that has resulted in the outpouring of support by hundreds of contributors.”

The scholarship is named in honor of Everett L. Dargan, MD, FACS, a semi-retired surgeon and Columbia native who has supported the School of Medicine as a faculty member and major donor.
LEAVE YOUR MARK AT THE USC SCHOOL OF MEDICINE

The Class of 2011 requests your support to help beautify the campus with two water fountains at the entrance of Building 3. Brick pavers surrounding the water fountains can be engraved with a personalized message to mark numerous occasions, including celebration of a memorable event, memorializing a loved one, or recognizing a graduate. Brick pavers, which can include up to three engraved lines, can be purchased for $125 each. All proceeds will be used to purchase the fountains and to provide ongoing maintenance.

Order Today!
Download an order form on www.med.sc.edu, call 803-733-3221, or mail a check or money order to:
USC School of Medicine Class of 2011
Office of Advancement
Attn: Susan Greer
Columbia, SC 29208
Designate on the check/money order “Class Gift—2011 #1A3309”

FIRST WORLD CONGRESS ON ULTRASOUND IN MEDICAL EDUCATION

April 29–May 1, 2011: See, experience, and explore one of the most powerful diagnostic devices and its impact on the future of patient care!

The University of South Carolina School of Medicine is pleased to host the First World Congress on Ultrasound in Medical Education, April 29-May 1, 2011, at the Columbia Metropolitan Convention Center. The World Congress will bring together national and international medical educators, scientific innovators, health care professionals, and the medical community in a forum to learn about the impact ultrasound is having on medical education and the practice of medicine—locally, nationally, and globally.

Ultrasound has been recognized as a way to provide health care professionals with a powerful point-of-care diagnostic tool that allows identification of human pathology before it causes serious harm or even death. With ultrasound, procedures such as starting intravenous catheters can be guided in such a way to decrease complications and enhance patient safety and comfort. Portable ultrasound systems are laptop size and recently several manufacturers have introduced hand-held or pocket-sized ultrasound devices that are likely to become the stethoscopes of the 21st century.

Many physicians and other health care professionals do not use ultrasound technology to its full clinical value because the opportunity to be trained in ultrasound has not been available across the spectrum of health care providers. As the leader in ultrasound education, the USC School of Medicine has made significant strides in sharing the strength of ultrasound by creating an integrated four-year ultrasound curriculum as a teaching tool for medical students, assisting medical schools in developing countries with introducing ultrasound in their curricula, and developing an ultrasound training program for rural primary care providers in South Carolina. Because of its multiple ultrasound training programs, the School of Medicine was invited to host the First World Congress on Ultrasound in Medical Education.

CME courses will be offered, as well as live scanning workshops, point-of-care sessions, hands-on training, and a sneak peek at the latest innovations in ultrasound—all in an environment that embraces the Southern hospitality, cuisine, music, and traditions of beautiful Columbia, S.C.

For more information or to register, call: 803-777-9444, email: info@wcume.org, online: www.wcume.org.

*This activity has been approved for AMA PRA Category 1 Credit™
Judith T. Burgis, MD, class of ’89, has been appointed interim chair of the Department of Obstetrics and Gynecology. Burgis joined the faculty of the School of Medicine in 2004 after 11 years in private practice in Columbia. She is a fellow of the American College of Obstetrics and Gynecology and is active in clinical research.

Wayne Carver, Ph.D., has been appointed director of graduate programs. Carver will be responsible for management, direction, and promotion of all Ph.D. and MS programs in biomedical sciences, including developing curriculum, overseeing student recruitment, and managing the Integrated Biomedical Sciences program. He will also explore and submit NIH training grants to advance graduate student training.

Edward W. Cheeseman Jr., MD, has been appointed chair of the Department of Ophthalmology. At the medical school and nationally, he has distinguished himself as a premier expert in pediatric ophthalmology. In 2009, Cheeseman was named among “America’s Top Ophthalmologists” in pediatric ophthalmology by the Guide to America’s Top Ophthalmologists. His focus is community outreach to support vision screenings for young children in South Carolina, especially in rural areas.

Stanley Fowler, Ph.D., associate dean of research and special projects, has retired after more than 28 years as a faculty member at the School of Medicine. Fowler played a major role in developing the S.C. Cancer Center, the Neurosciences Center, and the Ultrasound Institute. He was also instrumental in expanding the role of the medical school in rural health and helped to introduce telemedicine in South Carolina.

Richard Harding, MD, chair of the Department of Neuropsychiatry and Behavioral Science, has retired after more than 30 years at the School of Medicine. Prior to his appointment as chair in 2003, Harding was a professor of clinical psychiatry and pediatrics, as well as medical director of psychiatric services at Palmetto Health Richland. He will continue on a part-time basis to teach and see patients.

Ali A. Rizvi, MD, has been appointed chief, Division of Endocrinology, Diabetes, and Metabolism in the Department of Internal Medicine. Rizvi is the A.T. Chalk Endowed Professor of Internal Medicine.

Lenwood P. Smith, MD, has been appointed chair of the Department of Neurosurgery. Before his appointment, Smith was chief of the Division of Neurosurgery and was responsible for spearheading development of the medical school’s comprehensive Neurosciences Center. He collaborated with Palmetto Health Richland to establish the hospital’s neurosurgery trauma center.

Meera Narasimhan, MD, has been appointed interim chair of the Department of Neuropsychiatry and Behavioral Science. She joined the faculty of the School of Medicine in 1998. She is a diplomate of the American Board of Psychiatry and Neurology and is involved with a number of research initiatives.

Jennifer Nyland, Ph.D., associate professor in the Department of Pathology, Microbiology, and Immunology, was selected as an Environmental Health Sciences Fellow. Nyland is among 10 scientists who will be trained in translating science, polishing their communication skills, and learning effective ways to inform others about new research findings.

John J. Walsh IV, MD, has been appointed chair of the Department of Orthopaedic Surgery and Sports Medicine. Walsh’s career in orthopaedics, advanced surgery of the upper extremity, and medical academics spans nearly 20 years. He has been instrumental in expanding the department’s clinical services and community initiatives in sports medicine. Walsh’s primary interests are computerized imaging for planning reconstructive osteotomies for bone deformity and reconstruction for brachial plexus injuries.

James R. Stallworth, MD, an associate professor of pediatrics, assistant dean of admissions and director of student recruitment, has received the 2010 Alpha Omega Alpha Robert J. Glaser Distinguished Teacher Award from the American Association of Medical Colleges.
A MESSAGE FROM DR. JUDITH T. BURGIS, CLASS OF 1989

PRESIDENT, SCHOOL OF MEDICINE ALUMNI ASSOCIATION

Many physicians can agree that there are myriad reasons that shape the decision to pursue medicine as a career, whether derived from the fascination with the way the human body functions or the result of a tragic or heroic life experience. As a graduate of the class of 1989, I look back on my decision to become a physician and get unbelievable satisfaction. Juggling motherhood, marriage, and studying was a bit daunting, but well worth the journey.

There are countless future physicians and scientists in the wings, ready to follow in our footsteps at the University of South Carolina School of Medicine. How do we as practitioners and alumni assist those who aspire to take care of the health of humanity? We can join forces with our more than 1,700 fellow alumni to support the alma mater that has afforded us the opportunities we have as physicians, health care providers, and scientists. Today, we are faced with so many challenges with budget cuts, health care reform, and a physician shortage. That’s why your support to the School of Medicine is critical. You can lend your voice to help form the future of health care, volunteer to mentor a student, participate in alumni events, sponsor a scholarship for a worthy student, and so much more.

The article on page 2 brings back memories of medical school and the milestone decision we made choosing which area of medicine to practice. As you read it, I am sure you will, as I did, glean the excitement of the students and the supportive nature that still exists among faculty. Take this as an opportunity to remember your path to medicine and consider how you can support the next generation of physicians and scientists at the School of Medicine.

Looking forward to a great year!

Judith T. Burgis, President
School of Medicine Alumni Association
CLASS OF 1986

- Kenneth W. Strauss, MD—“I’m a busy endocrinologist/global medical director/traveling lecturer (mainly in Europe and Asia). Usually I don’t remember what country I’m in when I wake up in the morning. I’ve also accepted a director’s position at the European Medical Association, as if the rest wasn’t enough! I wish I could be at the 1986 reunion this year, but I’ll be in Indonesia and India working with their diabetes doctors on those dates.”

- March E. Seabrook, MD (gastroenterology) was awarded the Order of the Palmetto, South Carolina’s highest civilian award, on Oct. 22 at the S.C. Medical Association office in Columbia.

CLASS OF 1988

- Douglas K. Holtzman, MD (pediatric emergency medicine)—“I became a Tar Heel in August ’09 when I joined the pediatric faculty at the UNC School of Medicine as assistant professor of pediatrics and emergency medicine. Loving the new job and loving Chapel Hill!”

- Lisa (Malissa Gail) Wilson, MD (geriatrics)—“This is a picture of me graduating from med school in May ’88 holding my daughter, Malissa, born Jan. 29, 1988. She will be starting USC med school in the Class of 2014!”

CLASS OF 1989

- Judith T. Burgis, MD (obstetrics and gynecology) was appointed interim chair of the School of Medicine’s Department of OB/GYN.

CLASS OF 1990

- Robert Holleman, MD (pediatric nephrology)—“My tennis team, Chicken Dinner, won the Spring 2010 4.0 state championship May 15-16, 2010.”

CLASS OF 1997

- Kimberly Holloway, MD (obstetrics and gynecology) and her husband, Benjamin McDow, are the proud parents of a daughter, Mary Grey McDow, born June 26, 2010.

CLASS OF 1998

- Robert M. Underwood, MD (emergency medicine)—“In addition to practicing emergency medicine in our emergency department, I am also the chief medical information officer for RMH Healthcare in Harrisonburg, Va.”

CLASS OF 1999

- Emily Figueroa Nabors, MD (family medicine)—“I was recently named one of Mecklenburg Times 50 Most Influential Women of 2010. I am practicing family medicine at Primary Care Associates in Mooresville, N.C. I have been at the practice for eight years since graduating from Florida Hospital residency in Orlando.”

- Cheryl Soehl, MRC (master’s in rehabilitation counseling) has won the first-ever Martin Luther King Jr. Day Social Justice Award, which recognizes individuals who have exemplified King’s philosophies through random or ongoing acts of community service, social justice, or racial reconciliation.

- Jennifer Phan Robinson, MD (internal medicine) and Boykin Robinson, MD (’97/emergency medicine)—“We welcomed Ryan Jones Robinson on March 22, joining big brother Tyler, age 4. We are enjoying our boys so much! Boykin is vice president for clinical services for Apollo MD in Atlanta and continuing to work clinical shifts as director in the Cobb ED. Jenn is working part-time as a hospitalist with Kaiser Permanente at Piedmont Hospital.”
CLASS OF 2000

- Dyanna P. Domilici, MD (psychiatry)—“Our son Max was born July 23, 2007, and has filled our lives with joy ever since!”

- Jeffrey F. Johns, MD (psychiatry)—“My wife, Carmelita Reyes, and I are the proud new parents of Carlos Mateo Johns. He was born May 16, 2010. In July, I was fortunate to be interviewed on the PBS NewsHour for the second time. I originally was interviewed on Veterans’ Day 2009. I spoke on military and veteran mental health. I enjoy working for the City of Berkeley mental health clinic.”

CLASS OF 2003

- Bryan J. Lundquist, MD (family medicine)—“I am working in a rural family practice in a small office with one PA doing mostly outpatient family medicine. I am currently medicine service chair at the local hospital as well as chairman of the board of the Bangor (Maine) Rescue Mission.”

CLASS OF 2005

- Joyce K. Lee-Iannotti, MD (neurology)—“I recently completed my neurology residency at the Cleveland Clinic and am currently a sleep medicine fellow. I am pursuing a staff associate position in the Department of Neurology at the Cleveland Clinic for the upcoming year while my husband, Christopher, completes his training in spine neurosurgery.”

CLASS OF 2006

- Kristi Michelle Moore, MD (internal medicine)—“I am completing my year as chief resident, and then beginning a career as an academic hospitalist at Mercy Medical Center in Baltimore, Md. I will continue to work with residents and students from the University of Maryland School of Medicine.”

- Anna Quinn Harrelson, MD (family medicine)—“I am currently practicing as both a hospitalist at Pardee in Hendersonville, N.C., and as the medical director for two urgent cares in Asheville and Hendersonville. We love the mountains of Western North Carolina and are enjoying building a life here!”

CLASS OF 2007

- John K. Baker, MD (neurology)—“I am a 2007 graduate and engaged to be married May 22, 2010. I am currently PGY-3 of 4 in adult neurology, finishing next year with plans to return to South Carolina to practice.”

- Christopher Lane Elliott, MD (surgery-general)—“We just adopted a little brother and sister from Swaziland. Their names are Mykah Elizabeth (4) and Jackson William (3). We now have a full basketball squad of five kids, all age 5 or under! I’m wrapping up a year of research and have three more years to finish my general surgery residency at Tripler Army Medical Center.”

CLASS OF 2008

- Heather Joyce Dalton, MD (obstetrics and gynecology)—“I am finishing up my second year of residency in OB/GYN in Phoenix, Ariz.”

CLASS OF 2009

- Christina Crabbe Kennelly, MD (internal medicine) just finished her intern year at MUSC in internal medicine and was recently named Intern of the Year in Internal Medicine.

- Angelia N. Smith, MD (otolaryngology)—“I matched in Galveston in otolaryngology at University of Texas Medical Branch. I will be starting another intern year with their program in July! I am very excited!”

CLASS NOTES: Keep in touch! Send your updates to the Alumni Office. Debbie Truluck 803-733-1568, debbie.truluck@uscmed.sc.edu, Johnny Hakim 803-733-3311, johnny.hakim@uscmed.sc.edu or online at alumni.med.sc.edu
THOMAS BURNETT, MD, FACEP
CLASS OF 1999

Whether he is saving lives in the hospital, on the battlefield, or in a violent civil setting, Thomas Burnett is trained to handle the situation as a physician, soldier, and educator.

Burnett decided on a unique path for his medical career early on when he encountered a dangerous situation while working as a nursing assistant in college. While he was treating patients in the emergency room at Greenville Memorial Hospital, a prisoner who was being treated escaped from a police officer, stole a handgun, shot the officer and began shooting wildly at hospital staff.

Fortunately, the officer survived and the prisoner was captured before anyone else was injured. This life-threatening event influenced Burnett’s decision to become a SWAT team physician, Army medic, police officer, and operations medical educator and trainer.

“This was an enlightening experience and really opened my eyes to what I wanted to do with my medical career,” Burnett said. “Seeing the SWAT team take control of the situation, I thought, ‘That’s how I can make a difference—helping law enforcement save lives in austere and dangerous environments.’”

During his residency, Burnett joined the Army Reserve, pursued additional training at the police academy, and became a certified law enforcement officer in South Carolina. Continuing his passion for medicine, he completed a four-year residency in emergency medicine at the Medical College of Georgia. At times, Burnett worked evening shifts at the hospital and volunteered as an officer during the day.

In 2005, after his first deployment with the U.S. Army (a second deployment led him to Afghanistan in 2007), he accepted an emergency/trauma position in Roanoke, Va., where he continued volunteer service as a Virginia State Police SWAT team physician. Burnett’s team was dispatched to aid victims in the Virginia Tech shootings. Here, his training as a tactical medicine physician and soldier prepared him to handle the emergency medical needs of the victims and help keep other external circumstances under control.

“These types of violent acts where indiscriminate shootings and hostage situations occur at work, school, and other public settings have crept into our society and become more and more prevalent,” he said. “They often resemble a military combat environment. The increasing demand for skilled rescue response to these events is a testament to the need for tactical and military medicine as a subspecialty.”

This belief is what brought Burnett back to his Southern roots and his current position. As the director of the Center of Operational Medicine at the Medical College of Georgia, Burnett conducts predeployment training for FBI agents, teaching them life-saving techniques and survival skills. He is also responsible for developing curriculum and teaching wilderness, disaster, and tactical/military medicine. And, yes, he continues to serve as a volunteer SWAT officer and as the command surgeon for the 457th Chemical Battalion in the U.S. Army Reserve.
ALUMNI AWARDS

Congratulations to the 2010 USC School of Medicine Alumni Award recipients. Alumni are recognized for their outstanding accomplishments and distinguished service to medicine in Columbia, in the state, and across the country.

Robert C. Holleman Jr., MD, FAAP
Class of 1998
Distinguished Physician Alumni Award
Awarded to a School of Medicine alumnus who graduated prior to 2001 who has demonstrated significant clinical, academic, and/or research accomplishments.

Natasha M. Ruth, MD, MS
Class of 2000
Distinguished Young Physician Alumni Award
Awarded to a School of Medicine alumnus who graduated 2001 or later who has demonstrated significant clinical, academic, and/or research accomplishments.

Kerry Kennedy Sease, MD, MPH
Class of 1998
Humanitarian Alumni Award
Awarded to a School of Medicine alumnus for distinguished human service contributions at the local, state, or national level with an emphasis on health and welfare.

Darrell R. Borger, Ph.D.
Class of 2001
Distinguished Doctorate Alumni Award
Awarded to an alumnus of the School of Medicine Biomedical Sciences Doctorate program for significant accomplishments in teaching or research.

Richard P. Wilson, CRNA, MNA
Class of 2006
Distinguished Master’s Alumni Award
Awarded to an alumnus of the School of Medicine’s master’s program for significant accomplishments in his/her field.

Jennifer Anne Sullivan, MS, CGC
Class of 1996
Distinguished Master’s in Genetic Counseling Award
Awarded to an alumnus of the School of Medicine’s genetic counseling program for significant accomplishments in the genetic counseling field.

David L. Keisler, MD
School of Medicine faculty member since 1978
Honorary Lifetime Membership Award
Awarded to special friends of the School of Medicine, community leaders, advocates, donors, or others who have demonstrated outstanding support for the school.

Richard P. Wilson, CRNA, MNA
Class of 2006
Distinguished Master’s Alumni Award
Awarded to an alumnus of the School of Medicine’s master’s program for significant accomplishments in his/her field.

Jennifer Anne Sullivan, MS, CGC
Class of 1996
Distinguished Master’s in Genetic Counseling Award
Awarded to an alumnus of the School of Medicine’s genetic counseling program for significant accomplishments in the genetic counseling field.

David L. Keisler, MD
School of Medicine faculty member since 1978
Honorary Lifetime Membership Award
Awarded to special friends of the School of Medicine, community leaders, advocates, donors, or others who have demonstrated outstanding support for the school.

Class Reunions
SATURDAY, MARCH 5, 2011
6:30 p.m. Class Reunions
The Inn at USC
1619 Pendleton St
Columbia, SC 29201

Classes Celebrating Reunions:

QUESTIONS/REGISTRATION:
Johnny Hakim: 803-733-3311 or johnny.hakim@uscmed.sc.edu
Debbie Truluck: 803-733-1568 or debbie.truluck@uscmed.sc.edu

Register for events online at alumni.med.sc.edu
SURVEY SAYS GRADUATES ARE PLEASED WITH THEIR MEDICAL EDUCATION

Every year the Association of American Medical Colleges (AAMC) surveys all graduating medical students across the country. The Graduation Questionnaire is an important tool for medical schools to use in program evaluation and to improve the medical student experience.

The AAMC Graduation Questionnaire for the USC School of Medicine Class of 2010 indicated that 98.7% of the class “agreed” or “strongly agreed” that they were satisfied with their overall medical education. This compares to 87.4% nationally.

“This speaks volumes about the level of commitment our faculty and staff have to ensuring that our students receive a first-rate medical education,” said Dean Richard Hoppmann. “We are grateful to know that our students are pleased with their experience here.”