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MUSC, Roper St. Francis create Lowcountry Stroke Collaborative

Partnership marks innovative way to improve stroke care

By Dawn Brazell

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If the telling phrase of the day was win-win, the emotion that best captures the announcement of a partnership between two leading hospitals to create a Lowcountry Stroke Collaborative would be giddy.

That's because it marked the joint celebration of the partnership between MUSC and Roper St. Francis in what is being hailed as a highly unusual collaboration between two institutions that generally compete.

That wasn't causing the most excitement, though. The partnership means that Roper St. Francis and MUSC Health, which in December 2015 was recognized by the Joint Commission as a comprehensive stroke center – its top certification, will be pooling resources to work as a team, using telehealth and other innovative collaborations to reduce barriers to stroke care while improving the quality of treatment.

For stroke experts and surgeons at both institutions who know firsthand why "time is brain," this is a dream come true and one that some doubted would ever be realized.

Erin Sparks, M.D., a neurohospitalist at Roper St. Francis, who trained at MUSC, said it's a win-win situation. "We're over the moon - we're very thrilled to be a part of this and to be able to make this happen. We're very good at what we do, but now that we have the potential to offer the very latest in stroke care, this puts us on par with one of the leading academic institutions in the country."

Listing stroke symptoms to the crowd that gathered for the press conference to announce the partnership, Sparks explained why time matters so much.

"Having a stroke is absolutely terrifying," she said. "When you're having a stroke, every single minute matters. One-point-nine-million neurons, or brain cells, are destroyed each minute that passes when you're having a large stroke. This is why we say time is brain. When literally every minute counts, you want to be able to make the right treatment decisions as soon as possible."

In the past, this would have meant a patient who was possibly having a stroke would come into the emergency department, and then a neurology consult would be requested. Now, physicians and nurses have been trained



Dr. Patrick Cawley says the partnership with Roper St. Francis is an innovative way to rise above what can be a competitive health care climate.



Left photo: Dr. Holmstedt, second from right, asks a question during a joint training session for MUSC Health and Roper St. Francis doctors and nurses.

to use MUSC's telestroke carts. A neurologist can log onto the system and evaluate a patient within minutes.

"Think about it," she said. "The difference in time can save a person's ability to speak and move their arms. This is why this partnership is so important. Having this technology now allows me to see a patient face-to-face within minutes of their presentation no matter where they are in our hospital

See Stroke on page 13

PTSD and alcohol use Neuroscientist makes connection.

Medical errors Pharmacist creates safeguards.

Health & Well-Being

Meet Beau

OB-GYN doc releases novel





PEOPLE

Constants Adams



Constants Adams, a fourth-year student in the College of Medicine, has been awarded the American Medical Association (AMA) Foundation/AMA Alliance Grassroots Physicians of

Tomorrow Award. Adams was selected to receive this prestigious \$10,000 scholarship based on academic excellence and was the sole recipient of this scholarship for 2016.

"When I learned that I had been selected to receive this scholarship from the American Medical Association I was truly honored, not only because receiving this scholarship would help me achieve my academic goals, but also because it warms my heart to be recognized for accomplishing my dreams while doing my part to make a difference in the world," Adams said. Her interest in medicine began as a young child when she lived in the home her mother ran for women with HIV/AIDS who couldn't afford medical care. Adams eventually applied to medical school, and when she was accepted she never looked back.

In addition to her academic achievements, Adams has volunteered as the coordinator at the One80 Place Clinic, an organization that offers food, shelter and medical screenings to the

AROUND CAMPUS



photo by J. Ryne Danielson

Charleston Area Regional Transportation Authority representatives Michelle Emerson and Jeff Burns attended the Conversation Café, a monthly informal discussion held by MUSC Sustainability at the Colbert Library Nov. 2. Office of Parking Management's Debbie Humbert and other MUSC employees joined the discussion about alternative transit. For information about future discussions, contact recycle@musc.edu.

homeless, and studied the ongoing care of HIV youth as a James A. Ferguson Fellow at Johns Hopkins Hospital Division of Infectious Diseases. Adams also served as a peer mentor for first-year students at MUSC and was inducted into the university's Student Leadership Society.

The AMA Foundation is committed to improving public health through philanthropic support of medical communities. The foundation has awarded over \$60 million in scholarships to deserving medical students since 1950 and continues to recognize and reward medical student excellence.

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Joseph Schoepf



Joseph Schoepf, M.D., professor of radiology and director of the Division of Cardiovascular Imaging, was recently named president of the North American

Society for Cardiovascular Imaging. With appointments in Radiology, Medicine and Pediatrics, Schoepf also serves as director of Computed Tomography Research and director of the University Designated Center for Biomedical Imaging at MUSC.

A native of Austria, Schoepf graduated from medical school at the University of Munich, Germany. He completed his residency training at Brigham and Women's Hospital, Harvard Medical School in Boston.

Schoepf has been named among the top 10 cardiovascular imagers wolrdwide by Medical Imaging Magazine.

NASCI is the oldest and largest subspecialty society focused on the entire spectrum of cardiovascular imaging.

EVENTS

Memminger Food Drive

The MUSC Dr. Raymond S. Greenberg Presidential Scholars Program and the Charleston School of Law will provide meals and Christmas gifts to students (and their families) at Memminger Elementary School. Donate any canned goods or non-perishable food items to one of two collection receptacles at the MUSC library lobby by Dec. 9.

Film Festival

The MUSC International Film Group Film Festival will conclude this weekend, with films being shown on Nov. 18 and Nov. 19, Basic Science Auditorium (BSB 100). On Friday, Nov. 18 at 7 p.m., the Alliance Française will present a film which has been selected for the short list to represent France at the 2017 Oscars, "FRANTZ" (2016), directed by François Ozon. On Saturday Nov.19 at 7:00 p.m. "9 MOIS FERME" (9-MONTH STRETCH), 2013, directed, written by and starring Albert Dupontel.

Craft Show

The Third Saturday Craft Show sponsored by The Crafters Network, LLC will take place on Saturday, Nov. 19 from 10 a.m. to 3 p.m., the Pavilion located in the BI-LO Shopping Center at 774 S. Shelmore Blvd. in Mount Pleasant. Ready to start your Holiday shopping? Some of the featured items include local photography and canvas prints, jewelry, copper artwork, handcrafted wood pens and bottle stoppers, garden décor, candles and home décor.

Nov. 19 Chili Cook-off

The 2016 Chili Cook-off & Oyster Roast to benefit the Charleston Animal Society will be held this Saturday, Nov. 19, from 1 to 5 p.m., Riverfront Park in North Charleston. More than 4,000 animal lovers came out to show their support at last year's cook-off. Join as a guest, a team or a sponsor — The Charleston community's animals are depending on you.

THE CATALYST

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CHUCKTOWN BALL PROCEEDS HELP CHILDREN'S HOSPITAL



Rock band Umphrey's McGee presented a check for \$10,000 to MUSC's Children's Hospital Oct. 24. The band raised the money at the second annual Chucktown Ball held at Riverfront Park in September. Band member Ryan Stasik and manager Vincent Iwinski both recently had children delivered at MUSC and said donating to the hospital was a personal cause. From left, Mary Welch Stasik, basist Ryan Stasik, Dr. John "Jersey" Cahill, Vincent Iwikski, Heidi Iwinski and Martha Keating Domermuth.

photo by J. Ryne Danielson

Healthy planet – tips for an eco-friendly Thanksgiving

On Wednesday, Nov. 16, the Office of Sustainability celebrated MUSC's role in reducing waste and raised awareness about how to responsibly and efficiently handle our resources for a healthy community. MUSC works towards this goal with a variety of programs to reduce waste, reuse materials, compost and recycle. In keeping with this theme and understanding the connections between a healthy planet and healthy people, I'd like to share some tips for "greening" the season for our own health, as well as the health of our environment.

☐ Think Global, Eat Local: Shopping locally for Thanksgiving meals not only benefits small businesses, but the environment as well. Buying local and organic helps preserve the environment by minimizing transportation and chemical pollutants. Guests will appreciate the wonderful taste and nutritional value of real foods such as local, organic and heirloom vegetables, whole grains, fresh seafood and organic turkeys, most of which are raised without hormones and pesticides. Organic turkeys are certified by the USDA and adhere to as the health of our environment, as we enjoy holiday healthy raising practices, which ban the use of antibiotics and growth hormones. These turkeys also have access to the outdoors, where they can eat healthier foods that nature intended them to eat.

☐ Reduce, Reuse, Recycle: At least 28 billion pounds of edible food is wasted each year – more than 100 pounds per person. One of the best ways to reduce your waste this Thanksgiving is to plan ahead for the meal and practic portion control. According to Slow Food USA, one-third of food in America goes to waste, adding up to 15 percent of what's in landfills. To prevent food waste, the solution may simply be to cut back on things that aren't as necessary. Having too many side dishes not only leads to food waste but overeating. Try cutting back on the number of items or using smaller dinner plates which helps with portion control. Send plates of leftovers home with guests, donate to a food bank or nearby homeless shelter and remember to compost food scraps.

☐ Give Back and Give Thanks: There is strong evidence supporting the interdependencies between human health, well-being and sustainability. These links between healthy lifestyles and sustainable lifestyles define the importance of living right for our health, as well festivities. Take time this Thanksgiving to consider the gifts of our natural world and their value to our wellbeing. Finally, take time to show gratitude and say thanks to people who matter most, and, if possible, spend time

MUSC Health & Well-Being

By Susan L. Johnson, Ph.D., MUSC Office of Health Promotion



in their company. In the words of John F. Kennedy, "As we express our gratitude, we must never forget that the highest appreciation is not to utter words, but to live by

From the Office of Health Promotion and our Wellness Team, have a happy and healthy Thanksgiving. Visit http://www.musc.edu/ohp or follow us on

Yammer for more information on our programs and resources. To sign up for our weekly newsletter, email emp-well@musc.edu.

Neuroscientist studies connection between PTSD and alcohol abuse

By J. RYNE DANIELSON

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A s families gather for the holidays this year, many will reminisce, sharing fond memories as they break bread and pass the cranberry sauce. They are the lucky ones. Others who carry memories too painful or too horrific to share will do whatever they can to forget, including turning to alcohol as a coping mechanism.

Many who have been to war, experienced abuse or lived through a traumatic event struggle to cope with life-altering anxiety and depression afterward. Approximately eight million people in the United States live with post-traumatic stress disorder, according to the National Center for PTSD, and nearly 75 percent of them report abusing alcohol at one time or another.

Justin Gass, Ph.D., a researcher in MUSC's Department of Neuroscience, said alcohol may work for a night, tricking the brain with a flood of short-lived endorphins, but that ultimately it just makes things worse.

"People often learn early in life that drinking can ease a hard day or make you feel better. It's a coping mechanism," he explained. "But when someone develops PTSD, they often start drinking more and more. Our working theory is that repeated alcohol use makes fear memories worse, which in turn leads to more alcohol consumption. It's a vicious cycle."

Gass' new \$1.7 million grant from the National Institute on Alcohol Abuse and Alcoholism, part of the National Institutes of Health, will allow him to pinpoint which areas of the brain are involved in processing fear memories and learn just how alcohol affects them. He hopes he may even identify possible treatments that can break the cycle of dependency and help PTSD sufferers overcome their traumatic memories.

"We don't really know a lot about what goes on in the brain and how alcohol and traumatic memories interact with each other," Gass said. "Our current findings suggest that alcohol strengthens the consolidation of negative memories



Photo by J. Ryne Danielson

Dr. Justin Gass explains how neurons change in response to different types of stimuli, for example, repeated alcohol use or traumatic memories. His research may help break the vicious cycle between PTDS and alcohol abuse.

and makes those memories stronger and more difficult to deal with."

Psychologists have been studying how memories are formed and stored since the late 1800s, and they still understand very little of how the process works.

"We know that whenever a memory is formed, new synapses, or connections, are created between neurons," Gass said.

Neurons are brain cells that "talk" by generating electrical signals and releasing chemicals called neurotransmitters.

The connections they form with other neurons are the basis of everything you remember, from your first kiss to how to tie your shoes.

"Think of an elephant," Gass continued. "It has a lot of different characteristics. It has a trunk. It likes peanuts. It's big. It's gray. Once the memory of the elephant is created, all of those characteristics get sent to different regions of the brain for long-term storage, and a region of the brain called the hippocampus reforms the memory into a coherent idea whenever you think about an elephant."

The more you think about elephants, the stronger the connections that are formed between neurons become and the stronger the memory, he explained. As short-term memories are consolidated into long-term memories, the physical structure of the brain actually changes.

"Whenever you recall a memory from long-term storage, there is a window of time in which it can be altered," Gass said. "And that's our opportunity to fix it, disrupt it, or change it before it gets reconsolidated into long-term memory."

While that might just mean updating a memory of one's spouse to include a new haircut, for someone with PTSD, it could be the key to treatment. By recalling a traumatic memory in a safe environment, it can be reconsolidated into long-term memory in a less impactful way.

"When you recall a memory, it opens a window for treatment," Gass said. "Either we can try to build new memories that compete with and eventually supplant the traumatic memory, or we can attempt to disrupt the reconsolidation of the traumatic memory, lessening its impact."

Gass and his team are using these methods to investigate novel ways to potentially treat alcohol/PTSD comorbidity. A type of treatment known as exposure therapy has been used since the 1950s to tackle phobias and anxiety disorders. A new spin on this traditional treatment is the use of cognitive enhancing drugs to speed up the process by decreasing the time it takes to form new memories to compete with the old ones. Whichever memory is stronger will win out, Gass said. Another type of treatment that attempts to alter fear memories is newer and more revolutionary. By injecting a genetically engineered virus into a specific region of the brain to make neurons light-sensitive, lasers can be used to temporarily shut those regions down. By shutting down the region of the brain responsible for consolidating or reconsolidating fear memories, those memories can be weakened.

"We think there's one brain region that plays a major role in driving fear expression," Gass explained. "By shining a laser at the brain region that motivates PTSD symptoms, and shutting it down for a short period of time, we can decrease those symptoms dramatically in rodents."

While the technique is non-destructive – it doesn't harm brain cells, it just alters their activity – it is not approved for use in humans. Certain drugs like beta blockers, which have been traditionally used to treat heart arrhythmias and hypertension, can also affect the same areas of the brain and disrupt memory formation. They may be one key to treating PTSD in humans.

Another key is to break the vicious cycle of post-traumatic stress and alcohol abuse. Repeated exposure to alcohol, Gass said, interferes with both types of treatment by causing memories to grow stronger rather than weaker over time, but no one is yet sure exactly how or why. Solving that mystery is one of the major goals of his grant.

Gass believes a big question in science at the moment is how to translate preclinical work like his into treatments that can help patients.

MUSC, he said, offers a unique opportunity on that front.

"There are a lot of clinical researchers

See PTSD on page 15

MEET BEAU



Beau Adams

Department; How long at MUSC *OCIO-IS/Epic; 17 years*

How you are changing what's possible at MUSC

Working on a program (Epic) that allows clinicians to provide exemplary care to patients.

Family

Wife, Kellie, son, Bryce; a dog, Emma; and a cat, Tigger

Military branch of service and years U.S. Army National Guard (18 years)

Cities and countries lived or stationed Germany, Panama, Afghanistan and a lot of other cities in the U.S. Too many to list.

Favorite war or military movie *Restrepo* (2010) *a documentary*

Best thing about living in Charleston
Being able to drive over a lot of different
waterways —especially at sunrise or sunset

Name a military hero you admire *SGM* (*Ret.*) *Kirkland. He is larger than life* and taught me bravery facing adversity.

THE MUSC ANGELS ARE HERE!



SCTR Lunch-N-Learn Special Populations

Translational Research Lunch-N-Learn Series: Inclusion of All

The first event in this series will address the adequate representation of special populations in translational research.



Speaker:

Chanita Hughes-Halbert, PhD
Associate Dean for Assessment and Evaluation
SmartState Center of Economic Excellence
Endowed Chair in Cancer Disparities
Professor, Department of Psychiatry and Behavioral Sciences
Director, SCTR Special Populations Core

Tuesday, November 22, 2016 - 1:00pm to 2:00pm MUSC Bioengineering Building Room 112





MUSC HEALTH CARE SERIES

DR. RAY TURNER, M.D. DEPT. OF NEUROSURGERY

TUESDAY, NOV. 29 - 6PM

The History of Physical Education in America & Exercise's Effect on the Brain

Physical education has risen and fallen in popularity throughout American history for reasons that we'll explore. We're all familiar with the physical benefits of exercise, but how exactly does it affect your brain?



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Cole conducts college visits, impressed with talent

By J. RYNE DANIELSON

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M USC president David Cole, M.D., FACS, visited the College of Dental Medicine Nov. 8, as part of his ongoing plan to tour the university's six colleges. Previously, he visited the College of Nursing in October and College of Pharmacy in September. He will visit the remaining three colleges in the coming months.

While at the CODM, chairman of the Department of Oral Health Sciences and associate dean for research Keith Kirkwood, DDS, Ph.D., highlighted new faculty members such as Izlem Yilmaz, DDS, Ph.D., and Chad Novince, DDS, Ph.D., who are conducting cutting-edge research on oral bacteria that is not being done anywhere else in the country.

Following, Theresa Gonzales, DMD, and Lindsey Hamil, Ph.D.,

discussed their efforts to map the college's curriculum and make it more interdisciplinary and adapted to the needs of 21st-century students and Amy Martin, DrPH, presented her work that aims to promote expanding access to oral health across the state and advance public health and population health competencies in dental education.

Martin Steed, DDS, highlighted the latest oral surgery techniques, and Michelle Ziegler, DDS, and Elizabeth Pilcher, DMD, led a tour of the dental clinic's special needs area, which treats patients from all across that state.

"We treat patients who traditional dentists may not be equipped for or comfortable treating – everyone from adolescents with autism to seniors with Alzheimer's and everything in between," Ziegler said.

In October, the president toured the College of Nursing. Dean Gail Stuart,



Photo travided

MUSC President Dr. David Cole, center, met with College of Pharmacy faculty Dr. James Sterrett, from left, Jennifer Wisiewski, Pharmacy Dean Philip Hall and Kelly Raggucci during his tour of the college in September.

Ph.D., RN, shared with her guests the history of the college before turning the tour over to department chair Julie Barroso, Ph.D., RN, and faculty assembly chair Brian Conner, Ph.D., RN, who led Cole on a tour of the simulation lab,

student lounge and administrative wing. Gigi Smith, Ph.D., RN, associate dean for academics, briefed the president on how the college is fostering innovative

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learning, one of five key tenents of the Imagine MUSC 2020 strategic plan. Terri Fowler, DNP, discussed interprofessional education; Martha Sylvia, Ph.D., RN, explained the power of applied analytics in health care; Carrie Cormack, DNP, explored the topic of putting patients first; and Cristina Lopez, Ph.D., updated Cole on the progress the college has made toward building a diverse and inclusive learning environment.

Cole also toured the college's Technology Applications Center for Healthy Lifestyles, the staff of which works with patients to develop cutting-edge health apps, such as smart pill dispensers and Bluetooth inhalers for asthmatic patients.

On the first of his planned visits to the colleges, in September, Cole toured the College of Pharmacy. Department Chairman Patrick Wooster, Ph.D., discussed the many ways by which the Drug Discovery and Biomedical Sciences Department is helping to advance new knowledge and scientific discoveries. Kelly R. Ragucci, PharmD, discussed the role of pharmacists in patient care and told the president the college was committed to putting patients first. James Sterrett, PharmD, and Jennifer Wisniewski, PharmD, demonstrated how to build healthy communities. Kirsty Brittain, PharmD, and Andrew Turner, a pharmacy student who plans to graduate in 2017, briefed the president on the college's latest advancements in innovative education, while Cathy Worrall, PharmD,



Dr. Martin Steed briefs Dr. Cole on the latest oral surgery techniques being adopted by the College of Dental Medicine in its commitment to put patients

and Faye Ratliff, student services program coordinator, discussed the importance of embracing diversity and inclusion.

Cole said he is constantly surprised at the amount of talent at MUSC and views it as his job to give that talent the attention it deserves. "MUSC has so much energy to tap into, and when people work together, there's no limit to what we can do," he said.



MUSC President Dr. David Cole is treated to a demonstration of a Bluetooth-enabled blood pressure monitor at the College of Nursing's Technology Applications Center for Healthy Lifestyles. The college believes such innovative apps and devices that link to patients' smartphones are one key to bringing nursing into the 21st Century.

Pharmcist explores new methods to reduce drug, medical errors

By J. RYNE DANIELSON

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omething is killing patients in hospitals across the country – hundreds of thousands every year. Beju Shah, PharmD, a clinical informatics pharmacist at MUSC, thinks he knows how to stop it and is on a mission to keep patients safe.

When the Institute of Medicine published "To Err is Human," its 1999 report on medical errors, health care professionals were shocked. Nearly 100,000 people die every year because of preventable mistakes, the report claimed. Doctors challenged its findings, fueling debate and controversy in the health care industry for over a decade.

We now know that report was incomplete. The numbers are actually much higher.

According to researchers at Johns Hopkins University, medical errors are the third leading cause of death in the United States. Ranking behind only cancer and heart disease, and well ahead of diseases like stroke and Alzheimer's, they claim more than a quarter-million lives every year.

Perhaps the most common type of medical error is when patients are given the wrong dose of a drug or the wrong drug altogether.

"It's hard to believe such errors still happen in the age of barcodes, with computers checking and double checking our work. But they do," Shah said. "In our health system, we may scan a drug's barcode eight to 10 times before it gets to the patient. We've got great safety nets, but if we don't use them effectively, then we'll have issues downstream."

There are a lot of safety nets in place, but many points of potential failure as well. Since 2004, the U.S. Food and Drug Administration has mandated that medications be labeled with identifying barcodes, a recommendation put forward by the "To Err is Human" report. But drug manufacturers often label drugs in bulk, which means pharmacists must repackage and relabel them before they can be dispensed. In addition, manufacturers change barcodes from time to time to update drug information, but providers don't always find out in a timely manner when they do. This can cause headaches - metaphorical ones for clinicians and possibly real ones, or worse, for patients.

"This was a broad mandate which did not ensure the quality of the barcode on the package," Shah said. "Many hard-toread barcodes do not scan easily for end users - white, translucent barcodes or barcodes printed on curved bottles, for example. There are far too many drugs that come through our supply chain that aren't recognizable because of outdated or unreadable barcodes. That's a massive chasm - not a gap, a chasm - in the safety net."

Shah's bold idea is a medication early warning system that proactively detects when drugs slip through the net and sounds an alarm, preventing dangerous and costly errors before they happen.

Realizing he was on to something, Shah turned to Intuit's QuickBase, a "citizen development" software platform designed to allow anyone with a good idea to build a working app, even without a background in writing code. If the safety net had holes, he'd find a way to patch them.

Even with a well-designed system, compliance can still be an issue, said MUSC Health Patient Safety program manager Stephanie Sargent, RN. Shah's system addresses that too. "Before a patient is given any medication, the doctor or nurse should scan the medication and the patient's armband to ensure the right dose of the right drug is being given to the right patient, at the right time, by the right route," she said. "But, when medications have a



Pharmacist Dr. Beju Shah explains the inner workings of the "Robot," a roomsized machine that scans and sorts medications in one of MUSC's clinical pharmacies. His work on the medication early warning system will protect patients by dramatically reducing medication errors.

barcode that can't be scanned, or isn't in our system, then that step gets skipped, and we end up circumventing a very important safety check."

Eliminating barcode errors, Shah said, eliminates one barrier to compliance and reduces human error in that step of the process. Rather than rely on users to report barcode issues manually, Shah's application automatically consults electronic health records databases to make sure drugs in the pharmacy match their inventory records and that they are labeled correctly with up-to-date barcodes.

"With this application, we can move away from self-reporting barcode errors, which is a reactive approach, toward

proactively and automatically finding problems before they even enter our system," he explained.

Designing this type of system didn't come out of left field for Shah. Before deciding to go into health care, he pursued degrees in computer science and business administration and got his start working with tech startup companies created by faculty and students at the University of South Carolina. He said that experience was crucial to his current

"To succeed with something like this, you have to have a startup mentality," he said. "You have to be willing to try things

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Error

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and fail."

That can be difficult at large organizations that are often hobbled by bureaucracy and siloed thinking. MUSC's commitment to innovation, a key part of the Imagine MUSC 2020 strategic plan, has helped overcome some of that inertia, Shah said. Especially helpful has been the Foundation for Research and Development, a non-profit organization meant to bridge the gap between business and science by commercializing new inventions created at the Medical University.

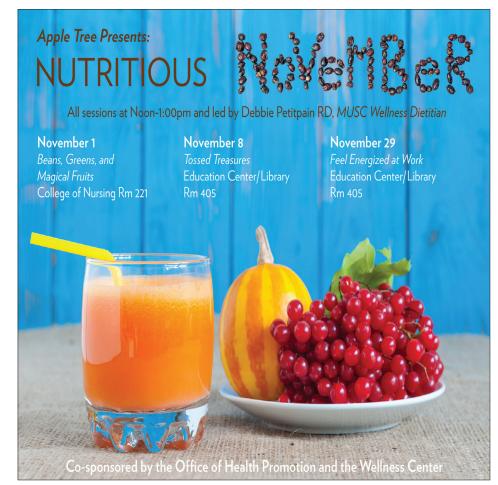
Shah has consulted with the FRD, and while he doesn't know whether he will commercialize this application, he said the foundation offered important support along the way.

That support helped overcome the pushback of vendors who had spent years and millions of dollars developing their own proprietary systems. While he heard quite a few no's initially, Shah said his

data eventually spoke for itself. His work on the medication early warning system has now been successfully implemented, saving time, money and lives.

Shah stressed the important role of entrepreneurial thinking in preventing medical errors, which he believes is often overlooked, and said he wants to see further innovation in the field of medication safety. "This is the new paradigm in an era where technology intersects complex processes and where people have to make critical decisions for patient care," he said.

He is currently working to build a community of health care innovators at MUSC to inspire breakthroughs and accelerate the adoption of transformative new technologies. He hopes to release more information on that soon.



MUSC Service Awards Celebrate Excellence



University and MUSC Health employees were recognized at the Annual Service Awards Ceremony on Nov. 1 at the Drug Discovery Building lobby. Employees with 40 years, 30 years, 20 years and 10 years of service were invited to attend special receptions honoring them. Above photo: Twelve of 18 employees joined MUSC President David Cole as they were recognized for 40 years of dedicated service. Right photo: Jeff Watkins, Public Affairs and Media Relations, celebrates 30 years and received a framed lithograph of the campus from Kathy Cole, Cole's wife. All 40 and 30 year celebrants received a framed lithograph.



PLANNING FOR RETIREMENT

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- Will Roth or Deferred Tax savings meet my goals?
- How do I roll over my previous employer plan?
- TERI What are my options?

When: Monday, December 5th at 9:00 – 9:45am (main seminar) Individual appts to follow - must schedule in advance

Where: Colbert Education Library, Room 102

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jill.daybell@empower-retirement.com to register

***Please be advised that these meetings pertain to the SCDCP plans (401k and 457). Jill can answer general questions about the State Retirement Plan, but is unable to assist with specific questions regarding your Pension payments.

MUSC clinical workforce thinks outside the box with SmartSquare

MUSC Health is now using the clinical workforce planning tool Smart Square to optimize scheduling and staffing solutions in inpatient areas, emergency room and perioperative units. Outpatient and other clinical support areas will begin utilizing Smart Square in future phases of the project. The ultimate goal is to improve staff forecasting, reduce the time managers spend scheduling and managing staffing changes and provide staff a better experience for care team members.

With Smart Square, clinical care team members have an intuitive tool to create, manage and view schedules. It's all about putting the right staff in the right place at the right time. In addition, a Resource Management Center (RMC) that centralizes workforce management has been implemented to allow clinical managers to focus on patient care and staff mentoring, while controlling costs, coordinating care and ensuring consistent staffing practices across the health system. The RMC manages

nursing shift adjustments, backfills and staff call-outs. The coordination of administrative staffing duties allows clinical managers more time to focus on patient care and team mentoring.

"Smart Square bridges the gap between addressing the scheduling needs of our bedside staff and ensuring adequate staffing to provide the safest patient care," said Christina Vitello, RN, Cardiology and Vascular Surgery nurse manager. "It promotes teamwork among care team members so that scheduling demands are managed collaboratively."

Smart Square replaced portions of the current scheduling system for some care team members. Although Smart Square may look different, it is very intuitive and offers great new features, including:

- ☐ a streamlined process for requests PTO and shift swaps.
- ☐ the ability to submit schedule requests several weeks in advance.

of ca

Making IT Great

Megan Fink

☐ the automatic posting of new shifts on a rolling calendar based upon patient demand

□ Notifications through email, text message or Smart Square will let you know when self-scheduling windows open and close (coming this December).

TRAINING

Training videos are available within Smart Square under the Help-Tutorials link. This can be done at each person's

leisure and revisited at any time. The two videos that will directly relate to care team members' use of Smart Square are 'Smart Square Introduction,' which details how to view the schedule, make requests and manage communication settings and 'Open Shift Introduction.' Care team members can also refer to the Smart Square user guide located within the same link within Smart Square.

Smart Square is accessible from

any web-enabled device. From a work desktop, nurses can click on the Smart Square link through the intranet site.

Self-Scheduling

Coming in early December, self-scheduling will be available online for all care team members in Phase 1 (inpatient, EDs and perioperative). This feature empowers care team members to create and control their own schedules. Self-scheduling is part of the overall effort of MUSC Health to maintain employee satisfaction and aid in recruitment. A 'self-scheduling' training video is also available in the Help-Tutorials link in Smart Square.

Smart Square incorporates evidence-based work strategies into its automated staffing and scheduling tools. Ultimately, this Smart Square project is one more way that MUSC Health can realize and sustain improvements to clinical, operational and financial outcomes. Having proper staff ratios translates into more efficient care teams and ultimately better patient care.

College of Dental Medicine News



Dr. Patricia Blanton, interim dean of the James B. Edwards College of Dental Medicine (CDM), congratulates Brad Hammond (non-clinical) and Evelyn Gaskins (clinical) as recipients of the CDM's Staff Recognition Awards for the 3rd quarter of 2016. CDM staff honored the recipients on November 1, 2016 at the College's Staff Meeting, where Dr. Blanton delivered a speech and lunch was served.

Expert shares advice on handling unhealth air caused by wildfires

By Helen Adams

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The air quality is bad enough in the Charleston area today that even people who don't have lung or heart problems should consider limiting their time outdoors. That's according to Lynn Schnapp, M.D., a pulmonary and critical care specialist at MUSC Health.

"I am concerned," she said, after seeing the air quality index hit 151 early this afternoon. "That's significant. That's not good."

Anything over 150 is considered unhealthy. (See the latest AQI at AIRNow.gov.) The reading was well below the next category, very unhealthy, which is AQI 201-300, but troubling, Schnapp said. The culprit is smoke from wildfires in neighboring states that has drifted into the Lowcountry.

For people who are especially vulnerable to changes in air quality, Schnapp said the smoky air can cause real problems. That includes people with asthma, bronchitis, chronic obstructive pulmonary disease (COPD) and heart problems. The elderly also are more likely to surrer complications from unhealthy air quality.

"There's an increased frequency of asthma problems," she said. "The smoky air is an airway irritant. It will induce inflammation in the airways."

MUSC Children's Health pulmonologist Shean Aujla, M.D., offered some advice specifically for kids with asthma. "If your child has severe asthma and has been hospitalized a lot, I'd restrict their outdoor time, which is hard. But this is a tough time. We've got viral season, seasonal allergies and now this change in air quality."

Waring Library announces paper competition winners

The Waring Historical Library at the MUSC announced the winner of 2016 W. Curtis Worthington, Jr. Research Paper Competition. First prize in the graduate category was awarded to Bradford Pelletier, a history master's candidate at the College of Charleston for his paper, "Bristling Dixie: Combat Trauma and the South Carolina Lunatic Asylum, 1861–1870."

There was no first prize in the undergraduate category awarded.

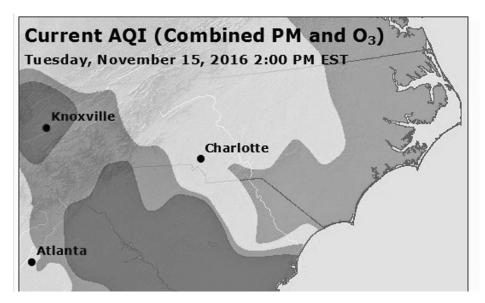
The first-prize winner receives \$1,500 and is invited to publish his papers in an upcoming issue of the Journal of the South Carolina Medical Association. Papers were judged by: Dr. Peter McCandless, professor emeritus, Department of History at the College of Charleston; Dr. Charles S. Bryan, professor emeritus, University of South Carolina School of Medicine and former editor of the Journal of the South Carolina Medical Association, and Dr. Cara Delay, associate professor and interim director of the Women and Gender Studies Program at the College

of Charleston.

Bradford Pelletier was born in Kennebunk, Maine. He is a graduate of the Loomis Chaffee School in Windsor, Connecticut. He received his bachelors degree in history and French from Roanoke College and is currently a history master's candidate at the College of Charleston. Bradford's thesis examines 19th–century medical perceptions of combat trauma in the wake of the American Civil War. Hoping to continue this research and eventually teach, he is pursuing acceptance into a Ph.D. program next fall.

The W. Curtis Worthington Research Paper Competition is named for Dr. W. Curtis Worthington Jr., director of the Waring Historical Library, and is in its eighth year. The Award was established to encourage students to contribute to the scholarship about the history of medicine and to reward those whose work is truly exemplary.

For more information or to find out how to support the award, visit http://www.waring.library.musc.edu.





Above: This air quality index map shows unhealthy conditions on Nov. 15 in Charleston and surrounding areas.

Left photo: Dr. Lynn Schnapp, center, calls the increase in the air quality index disturbing.

She also worries about preemies.

"They are very vulnerable. They can have asthma-like symptoms but also have very small airways that are very sensitive to the smoky air. The parents of preemies under a year old should try to keep them indoors during this hopefully short time period."

The parents of children with cystic fibrosis should also be on alert. "They could be very sensitive to this and are

prone to cough and lung infections."

But this smoky air is likely a short-term issue, Schnapp said. "The good news is, this is anticipated to be a transient phenomenon. We have overall good quality of air. I don't recommend that people go out and buy filter masks at this point. The main strategy is to minimize exposure. And not to freak out if you need to cross the street."

STROKE Continued from Page One

system — Roper Mt. Pleasant to our free-standing ERs at Roper at Northwoods, at Berkeley, to Roper St. Francis and here at Roper downtown."

Roper doctors will handle the telestroke calls during the day for their locations, but MUSC Health and Roper doctors will share calls at night to ensure 24-hour care at all of the sites. Research shows that this kind of expert access improves treatment decisions, including the call of whether to administer the clot-busting medication tPA, which affects door-to-needle times. There's a critical window of time for stroke patients to be eligible for intravenous tissue plasminogen activator to have the best outcomes.

It took a village of people months of work and training to make the partnership become a reality, but two key players in making the dream come true were Sparks and Christine Holmstedt, DO, medical director of MUSC Health's Comprehensive Stroke Center and telestroke program.

"I've worked with many folks around the state to develop what we call the South Carolina Telestroke Alliance," Holmstedt said. "This alliance has allowed rural hospitals access to expert stroke care. We currently cover 96 percent of the state, so 96 percent of the state has immediate access to emergent expert stroke care."

The numbers speak for themselves. When the telestroke program began in 2008 there were 87 consults. By 2016, this number had risen to 2,040. For years Holmstedt and colleagues have been working to build this program around the state. But Holmstedt said she's always had a secret dream of bringing it back to the Lowcountry.

"We knew it was possible but it was going to take a little bit of convincing, a little bit of discussion, a little grassroots."

She and Sparks met several times and brought it up to administrators. Both said they have been pleasantly surprised by the enthusiastic response of administration. Holmstedt said the advantages in cost savings and patient care made it worth the while to figure out how to make such a partnership work.

"The biggest advantage to having a Lowcountry Stroke Collaborative is that it allows folks to be seen within minutes of having a stroke. Every 15-minute reduction in treatment time means improved outcomes for patients including reduced risk for complications and disabilities. That's why we feel this partnership is so important."

The partnership will continue to grow. Holmstedt said they hope to set up clinics focused on preventing cardiovascular disease and reducing the prevalence of stroke. It also makes collaborative research projects easier that will offer an array of options for stroke prevention and treatment. South Carolina is part of the Stroke Belt, an 11-state region of the United States where studies show the risk of stroke is 34 percent



Photo by Sarah Pack

Dr. Raymond Turner, nurse Jaci Furlano and Dr. Chirantan Banerjee treat stroke patients at MUSC Health. Banerjee came to MUSC Health from a much larger hospital in Texas because of the high volume of stroke patients here.

higher for the general population than it is in other areas of the country.

"It's the most exciting thing we've done in our stroke program so far, and we've done a lot of exciting things," Holmstedt said. "It's going to improve patient care that much more throughout the Lowcountry. I'm really excited to get started. It's going to level the playing fields among all our sites. The goal is that patients will receive the same level of care no matter where they go."

Raymond Turner, M.D., a neurosurgeon and director of MUSC Health's Cerebrovascular Center, said in January they will phase in the next part of the plan that will eliminate transfers between the hospitals of stroke patients who need specialized surgical care. This will mean MUSC Health physicians will travel to other hospitals to take care of the stroke patients there, eliminating 20 to 30 minutes that would be involved in getting that patient transferred.

"We fight every day to save five minutes here and 10 minutes there in patients getting access to tPA and stroke comprehensive services," he said. Eliminating delays in access to treatment gives the patient more treatment options and a better chance of survival with the fewest limiting disabilities.

"We're excited that we'll be able to offer that at Roper and St. Francis, and that we'll be able to be on site quicker and faster than we have ever been able to do before. That's an exciting paradigm, and it will really change the way patients have access to stroke care."

Pat Cawley, M.D., MUSC Health chief executive officer, said the partnership marks an innovative way to rise above what can be a competitive health care climate.

"These two institutions, which are right across the

street from each other, compete in many different areas. Today, we're announcing a unique collaboration. I think that's great news in and of itself that two great institutions are working together," he said. "More importantly, this great collaboration is going to lead to improved care in the community. That's the real win here today."

Cawley said the state has invested in telehealth and in having MUSC Health work with other health systems to help deliver telehealth through South Carolina. "We think this is going to be a big game changer for the entire state. We're going to be able to bring cutting edge care closer and closer to patients and families. Today is one such example of a telehealth practice."

Matt Severance, Roper St. Francis chief operating officer, agreed with Cawley, adding that unfortunately, in today's modern era there are not many examples of competing institutions finding ways to collaborate.

"The partnership is a great example of two health systems that are otherwise in a competitive environment coming together for what's best for the community. We're leveraging the collective resources of two institutions, the collective clinical expertise and the collective technology, to both improve and expand stroke care not only in the region but across the state."

However, it's not the first time the two institutions have worked together. He cited plans for a greenway — a

See Stroke on page 15

Physician releases second suspense novel

By MIKIE HAYES

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It's not unusual in a novel or movie for a CIA operative like Iason Bourne, Ethan Hunt or Jack Ryan to be the story's action hero, rooting out corruption and sinister megalomaniacs and ultimately saving the day. It's rather expected, actually, owing to their flat abs, intensive combat training and electrifying missions.

While it might not be unusual for an expectant mom during delivery to think of her OB-GYN as her personal hero, these specialized doctors rarely, if ever, come to mind when considering the role of action hero in books or on screen.

"There's actually only one OB-GYN action hero that we know of," said Roger Newman, M.D., professor and Maas Chair for Reproductive Sciences, proudly, "and that's Dr. Declan Murphy." Newman is the author of the recently released book, "Two Drifters," that continues to follow the exploits of MUSC's Murphy.

Newman's highly-anticipated sequel, published 18 months after the release of his first book, picks up where "Occam's Razor" left off. "Two Drifters" is set in the early 90s, and in the book, it's been nearly seven years since the last time readers caught up with Murphy, who had just reconnected with his high school sweetheart, Helene, the abused daughter of the governor, who was under investigation for running with the Operation Jackpot gentlemen drug smugglers. Now it seems those reckless days hanging out with drug smugglers would yield grave consequences for her.

Readers learn the two are now married and living the good life on the Wappoo Cut, a picturesque stretch of water that runs between the James Island and West Ashley areas of Charleston, connecting the Stono and Ashley rivers. As Newman described it - they were enjoying "the salad days," referring to the many carefree pleasures their idyllic life had come to

The plot quickly thickens, however, and their evaluation and treatment.

their happiness is disrupted when Helene, the love of his life, is diagnosed with HIV. With her death, Murphy is plunged into a deep depression. Distraught beyond words, he struggles to cope with her death and get through life. Depression affects his work to the point that his clinical performance deteriorates, and he finds himself at odds with his superiors and colleagues. The once popular attending physician is now labeled moody and angry, and staff must tiptoe around him.

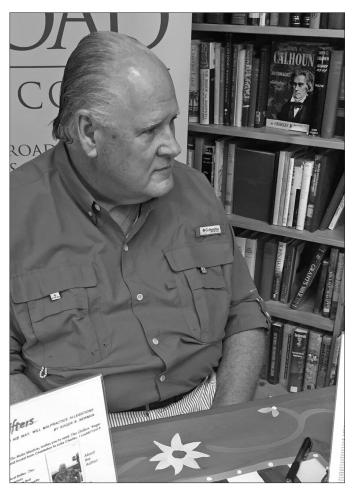
The story becomes further complicated when two unrelated events on the same night conspire to destroy his career.

Murphy is taking call on July 4, trying to manage staff and a service full of new residents on call for the first time. When a delivery goes wrong, it results in a battle between him and the anesthesia department. That same night, he encounters a couple with no prenatal care visiting his triage room, who believe that she has had a premature rupture of her membranes and is at risk for early labor. Upon examination, Murphy and the resident find no evidence that her water had broken, and she is discharged. He can't put his finger on it, but his instincts tell him there is something sketchy about these two drifters.

Several days later, she is admitted to a different hospital diagnosed with ruptured membranes and experiences a premature delivery. The baby dies. They blame Murphy. He soon finds himself embroiled in a malpractice lawsuit.

Things go from bad to worse when Murphy is put on suspension as a result of a peer-review complaint by the Anesthesia Department. His career, it seems, is in a downward spiral.

While his negligence seems undeniable - he's not willing to accept that. He can't stop thinking that something isn't right about these drifters. Despite what seemed like a total lack of sophistication, they were surprisingly knowledgeable about certain aspects of OB-GYN - especially as they related to the standard of care for



Dr. Roger Newman at an August book signing of his new book, "Two Drifters."

Photo provided

Murphy becomes suspicious this might have been something they've done before. He uses his contacts, including his friend, Laurence Nodeen, in the Department of Justice, who helps him track down the true identities of this couple.

Murphy's adventure takes him from tiny coal mining towns of West Virginia. to dangerous biker bars outside Lake Charles, Louisiana, and the voodoo culture of South Louisiana. Murphy ends up in a small-town hospital in Sulphur, Louisiana, after being nearly beaten to death. He returns to Charleston in search of both personal and professional redemption.

After reading "Two Drifters," Steve Brigman, author of "The Orphan Train," said, "The path ahead is clear as mud in this gripping medical thriller, but Dr. Declan Murphy must find answers that could save his career. As the author skillfully peels back the layers, we find only darkness, and danger, but Murphy pushes through the barricades. It almost costs him his life. Newman nailed this one, a page-turner throughout, crafted by a natural storyteller."

Newman took stock of how his life has

changed since writing "Occam's Razor," his first novel. "Writing the first book was extremely gratifying, but I had been shaping that story in my head for literally 20 years. I was gratified that I got it written, published and that people liked it, but the real question was, 'Do I have any more to write?' I was extremely excited that this second book essentially flowed out of me. I wrote it in less than a year maybe even six months," he said.

Newman is staying busy. He is currently working on his third book in the series, working part-time in his medical practice and coaching girls' basketball at Academic Magnet High School. He has also started a new blog that can be found at http:// rogerbnewman.com/post-scripts/.

Matthews MUSC Bookstore, (www. muscmedbooks.com), located at 158 Ashley Avenue across from the MUSC Storm Eye Institute, now carries signed copies of both "Occam's Razor" and "Two

You can also inquire about getting a personally signed hard copy. Both books can also be ordered at Amazon.com or http://rogerbnewman.com/books.

GROUP DOES COMMUNITY SERVICE FOR NATIONAL SERVICE WEEK



hoto provided

Members of MUSC's Chapter of the Travis Manion Foundation volunteered at the American Cancer Society's Hope Lodge on Nov. 5. The group helped clean and collect personal toiletry donations. Participants included Terese Shelton, from left, Mikhil Sanduria, Presley Randall, Colleen Cloud (Surgery), Shanmugam P. Selvam (Biochemistry & Molecular Biology), Jose Perey (Hollings Cancer Center) and Ryan DePalma (Biochemistry & Molecular Biology) Yuvaraj Sambandam (Pediatrics), front row from left, Rose Nganga (Biochemistry and Molecular Biology), Ha Kieu, Wendy Perey (Hollings Cancer Center), Ashwini Mohan, Neela Nair and Avudaiappan Chokkalingam (Surgery).

STROKE Continued from Page Thirteen

new medical district that will offer a healthy green space. The hospitals also have successfully worked together to provide the Center for Spinal Cord Injury.

Severance likes that the Lowcountry Stroke Collaborative means patients will be seen and treated more quickly than ever before. "We're partnering with the Medical University to ensure stroke patients receive timely care at a location capable of providing specific services and clinical expertise that they need most. It's a huge win for the patients and the providers. The collaboration will lead to better care for patients, improve the outcomes, decrease costs and mean fewer transfers from facility to facility."

Sparks said another benefit of the partnership is that it opens up training opportunities for Roper health professionals, from everything to having access to grand round educational presentations to specialized trainings. The partnership helps patients and providers in a collaborative model that has the potential to change how health care is



Photo by Sarah Pack

Roper St. Francis Chief Operating Officer Matt Severance, left, talks with MUSC Health Chief Executive Officer Pat Cawley.

delivered.

"It's unusual for an academic institution and a private institution to collaborate on a project this big. While people around the Lowcountry are excited about this, people around the country and even around the world are watching this to see if we will succeed. It will be a model for the country."

PTSD

Continued from Page Four

on campus working on the same ideas," Gass said. "We are talking about our data with each other all the time and getting new ideas to try. They may discover a new compound with promising findings. and consult with me to test pre-clinically what brain regions are involved in the effects they're seeing."

Identifying the relevant brain regions and tailoring drugs to precisely target them is important to avoiding harmful side effects, he explained.

As more soldiers return every year from the war in Afghanistan, America's longest war, and an increasing number of Americans report abuse at one time or another in their lives, Gass hopes his work will be an important first step toward breaking a vicious cycle that traps too many in a downward spiral of alcohol abuse, anxiety and despair.

Things are getting hairy in Public Safety

By Mikie Hayes

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Nothing says winter is on its way like a big pot of homemade chili bubbling on the stove, cheesy patchwork sweaters and men abandoning their perfectly good razors in favor of a full-on Grizzly Adams beard. Even normally clean-shaven baby faces look rugged and outdoorsy with a healthy dose of stubble.

Research asserts that men with beards appear more confident. Public Safety's Chief Kevin Kerley laughed when he heard that - the men in his department have a much more important goal in mind. Twenty men in the department committed to growing a beard over a month's time to help with a project called Beards for Babies, which is an opportunity to raise money for the Shawn Jenkins Children's Hospital.

"The guys have really rallied around

this effort, said Kerley." "We were at the ground breaking, and a conversation started around how could we possibly help with construction of the new children's hospital. Someone suggested 'No Shave November,' and from there we arrived at Beards for Babies. Everybody is having a really good time with this. There's lots of competition - whose beard looks better, whose is coming in fastest, who looks like Santa Claus."

Beginning November 1, the officers stopped shaving and each sought out 10 sponsors who would pledge a dollar a day for 30 days, the expectation being that each would raise \$300 during the month.

Officer Pat Kelly, one of the officers responsible for the Beards for Babies idea, is enjoying the camaraderie and awareness they are building for the new hospital. "In addition to the participating officers growing beards, the female officers also wanted to be a part of the project and



Chief Kevin Kerley, second left, joins other "bearded" officers in this fundraiser.

are holding bake sales in the Horseshoe every Tuesday during November. We hope everyone will get out and support this wonderful project. People can donate any amount they would like; it all goes to support the new Shawn Jenkins Children's Hospital."

They are two weeks in and so far the beards are looking pretty good. While some faces are itchy and others are patchy,

everyone is having a good time with the project. So much so that their plan is to team up next year with Hospital Security and challenge the rest of the university to see who can raise more money while growing impressive beards.

To sponsor an officer or for information, call Officer Pat Kelly, 792-8597. Visit Public Safety's bake sales Nov. 22 and Nov. 29 midday at the Horseshoe.