

FALL 2017

Advancing the Science of Surgical Care

THE STITCH

THE UNIVERSITY OF FLORIDA DEPARTMENT OF SURGERY

COVER STORY

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UF Health Opens New Heart & Vascular Hospital

In January 2015, UF Health leaders, faculty, staff and community members broke ground on the UF Health Heart & Vascular Hospital, a project that gives rise to the Southeast's most advanced home for the care of patients with cardiovascular issues. In December, their shared vision becomes reality as the hospital opens its doors.

This facility was designed to fit highly advanced technology and equipment and to enhance the safety and efficiency of patient and care team environments.

Highlights include:

- Eight dedicated cardiac and vascular OR suites with the latest design — utility booms from the ceiling keep all equipment, cords, outlets and other materials out of the way and make the room convertible and configurable.
 - Three hybrid cardiac and vascular ORs featuring flexible diagnostic and surgical set-ups.
 - Three general cardiac ORs and two general vascular ORs.

- 72 ICU rooms, equipped with patient lifts, bedside dialysis and surgical procedure lights to decrease the need to move patients.
- Two cardiac cath labs, three electrophysiology (EP) labs and one transesophageal echocardiogram (TEE)/cardioversion procedure room. A heart station with four vascular rooms; six echocardiogram rooms, two TEE rooms; three treadmill rooms and one EKG/Holter room.
- 48 private inpatient rooms with accommodations for family (a slightly recessed area with a convertible table and sofa/bed).
- 20 heart and vascular exam rooms conveniently located with centralized services.
- Each patient room features an infotainment system with a large flat-screen TV monitor and interactive bedside tablets for patient education, hospital information and entertainment.

The UF Health Heart & Vascular Hospital is designed to improve the patient experience by allowing for additional collaboration among cardiologists, cardiac surgeons, thoracic surgeons and vascular surgeons, which ultimately leads to better patient care.

UF Health's heart, thoracic and vascular teams are proud of the innovations and accomplishments the program offers to patients in the state of Florida and beyond. They are excited to expand faculty and staff resources with the new hospital to continue this path.

Highlights include:

- Multidisciplinary team-based care with minimally invasive approaches and close collaboration.
- Leadership and expertise of the team.
- Pioneered therapies and technologies with a series of firsts in Florida achievements.
- One of only 16 sites nationwide participating in a clinical trial for the XVIVO Lung Perfusion System, which allows surgeons additional time to evaluate a set of donor lungs and — in certain instances — improve their condition so the lungs become viable for transplant.

Florida firsts and firsts for UF Health with heart and vascular services

- 1958** Florida's first cardiac catheterization
- 1959** Florida's first open-heart surgery
- 1985** Heart transplant
- 1994** Florida's first adult lung transplant
- 1999** Florida's first radiofrequency catheter ablation for atrial fibrillation
- 2000** Thoracic endovascular aortic repair
- 2000** Thoracic aorta stent graft
- 2004** Hybrid mini-maze treatment for atrial fibrillation
- 2010** Fenestrated stent grafts for thoracoabdominal aneurysms
- 2012** Transcatheter aortic valve procedure
- 2014** Branched stent grafts for minimally invasive aortic therapy
- 2015** Aortic arch stent grafts
- 2015** Ex-vivo lung perfusion procedure
- 2016** Ventricular assist device using latest generation HeartMate III
- 2017** Aortic arch branched stent graft
- 2017** Transcatheter mitral valve repair



- Nation's first computerized cardiac catheterization lab, equipped to treat adults and children.
- One of the first in Florida to implant transcatheter aortic valve replacement.
- Joint Commission-certified ventricular assist device program for disease-specific care.
- Fully accredited Chest Pain Center with Primary PCI & Resuscitation designation by the American College of Cardiology.
- Availability of clinical trials with the latest medical devices.

UF Health is building on its reputation as a destination for outstanding cardiac, thoracic and vascular care. The new hospital enables us to serve more patients, and therefore increases our ability to gather vital data for clinical and translational research programs.

By treating a greater number of patients today, we can ultimately improve the diagnosis, treatment and outcomes for patients now and in the future. From multistage clinical trials to new surgical and therapeutic procedures, clinical and translational research at academic health centers like UF Health will generate the breakthroughs that change patient care for the entire world.

The UF Health Heart & Vascular Hospital opens in tandem with the new UF Health Neuromedicine Hospital.



UF Health's Collaborative Kidney Transplant Program with Sacred Heart Receives Medicare Approval

The kidney transplant program at Sacred Heart Hospital in Pensacola, a collaboration with University of Florida Health, has received Medicare approval that will allow more area residents to have access to needed transplants. Medicare certification of the program became effective June 28.

"This expands the pool of patients who can potentially undergo transplants at Sacred Heart. It will also help decrease wait time for those who are already waiting for a new kidney," said [Rick Brian Stevens, MD](#), a professor in the division of transplantation surgery at the UF College of Medicine, who practices at Sacred Heart Hospital. "Getting Medicare approval is a pivotal event in developing a high-quality kidney transplant program to fully meet the needs of the community."

Stevens said the vast majority of patients in Northwest Florida who are receiving dialysis treatment for kidney disease are age 65 or older and eligible for Medicare.

"There is a very big unmet need for kidney transplants in this region," he said. "Patients in this part of Florida have a lot of diabetes, hypertension and obesity. End-stage renal disease is also prevalent among the Panhandle population."

Throughout the southeastern United States, the average time on a wait list for patients needing a kidney transplant is 73 months, according to the Scientific Registry of Transplant Recipients. Previously, Northwest Florida residents had to travel to Gainesville, Birmingham or New Orleans for transplants. Most people cannot afford to be away from home in order to have transplant surgery, which also requires multiple tests and medical care before and after the surgery.

"More patients who live in the Pensacola area, hours away from other transplant centers, will clearly benefit from Medicare approval for kidney transplant services at Sacred Heart," said Kenneth Andreoni, MD, an associate professor and chief in the division of transplantation surgery at the UF College of Medicine. "Traveling long distances can be quite difficult for people who are very ill, and the coordination of care can be daunting."

In October 2016, UF Health and Sacred Heart began a collaborative kidney transplant program. The first procedure was performed on Feb. 2.

Gilbert R. Upchurch Jr., MD, Named Chair of the UF Department of Surgery

[Gilbert R. Upchurch Jr., MD](#), has been selected as the new chair of the department of surgery at the University of Florida College of Medicine following a national search. He began his new role Nov. 1.

Upchurch, who also serves as UF's Edward R. Woodward professor of surgery, has an international reputation as an acclaimed clinician, researcher and educator in the study and treatment of aortic and vascular disease. He is an exemplary teacher, having received many teaching awards over the course of his career.

"We are especially impressed with Dr. Upchurch's keen ability to listen, to quickly assess complex situations, and to articulate a path forward that is consistent with the mission and goals of UF Health," said Michael L. Good, MD, dean of the UF College of Medicine.

Prior to joining UF, Upchurch served as the chief of vascular and endovascular surgery in the department of surgery and the medical director of the Heart and Vascular Center at the University of Virginia Medical Center in Charlottesville, Virginia. He was also the William H. Muller Jr. professor of surgery, as well as a professor in the department of molecular physiology and biological physics.

Impressed by the breadth of expertise within the department and its combined strengths in clinical care, research and education, Upchurch said he seeks to build on what others have accomplished in making the department of surgery one of the very best in the country.

"UF has an amazing balance of outstanding clinical care, world-class research and top-notch educational programs," Upchurch said.

Earning his medical degree at the University of North Carolina Chapel Hill and training at Harvard University, Boston University and the Cleveland Clinic, Upchurch maintains active roles on numerous peer-reviewed journals and professional organizations.

He serves on the editorial boards of many prestigious publications, including the *Annals of Surgery*, *Surgery*, the *Journal of the American College of Surgeons*, *JAMA Surgery*, the *Journal of Vascular Surgery*, the *Journal of Endovascular Therapy*, *AORTA*, and the *Annals of Vascular Surgery*. He has also served as editor or associate editor for more than 10 books, including "Greenfield's Surgery: Scientific Principles & Practice," "Fischer's Mastery of Surgery" and "Rutherford's Vascular Surgery."

Upchurch is a fellow of the American College of Surgeons and the American Heart Association, and a distinguished fellow of the Society of Vascular Surgery. He is a member of numerous medical associations, including the American Surgical Society, the Southern Surgical Association, the Society for Vascular Surgery and the Southern Association of Vascular Surgery. He is president-elect of the Society for Clinical Vascular Surgery.



Read the full press release.

UF Surgery Resident Serves as Medical Consultant for ‘Grey’s Anatomy’

In an emergency room walled in on three sides, a group of physicians hovers over a body. David Hall, MD '13, a fifth-year UF College of Medicine general surgery resident, performs chest compressions, vigorously attempting to circulate blood throughout the patient's body. He pumps and pumps until a nearby voice yells, "Cut!"



This summer, Hall served as the medical consultant for the popular ABC drama "Grey's Anatomy," and his duties included working on and off camera. In addition to acting as an emergency physician in the 14th season premiere that aired Sept. 28, Hall worked in the writers' room to ensure medical and surgical procedures were realistically presented.

"My goal is to ensure that shows like 'Grey's Anatomy' accurately portray surgery to the broader audience and to use the show as a way to disseminate medical knowledge to millions of viewers," Hall said.

Hall had never seen an episode of "Grey's" before starting this role. He was alerted to the medical consultant position by former UF general surgery residency program coordinator Michele Silver, who sent him the application with a note attached: "You'd be perfect for this." The "Grey's Anatomy" medical communications fellowship for surgical residents is offered each season, and residents work at Prospect Studios in Los Feliz, Los Angeles, 24 to 40 hours a week for three to six months.



It all begins with a script. Hall, 30, from Fort Lauderdale, used his own experiences as a surgical resident and what he learned as a medical student at the UF College of Medicine to come up with scenarios that remain fresh within the drama's nearly 300-episode history. Hall's writing team included three former physicians, two former scrub nurses who help on the set, and outside consultants who review scripts related to their area of expertise.

"It's almost like being a doctor in reverse," he said. "I'll be given an end result, like a patient with a liver surgery dies. Then I have to help generate the presentation, symptoms and diagnostic and therapeutic steps that would lead up to that point. It's unlike anything I've ever been able to do before."

After a script is written, Hall visits the set to assist the cast and crew in performing surgical scenes. Though Hall had no background in TV or acting, he's had a lifelong interest in writing.

"Even on my first day, I was treated as an integral part of the creative team, and I work directly with the producers and writers every day to develop the stories and guide the medical scenarios," he said.

Hall's most rewarding experience was watching his labor culminate into a finished episode.

"I actually wrote the scene with the patient getting chest compressions followed by an ER thoracotomy. I was there from the beginning — writing, developing the medicine and acting. It was a unique way to see all aspects of this process," he said.

Hall is now back in Gainesville completing his general surgery residency and looking forward to a career in academia. He credits his education at the UF College of Medicine with providing him the tools he needed (and affording him a personal leave of absence from the residency program) to become a medical consultant on the Emmy and Golden Globe-winning television series.

"For some of the nonsurgical, rare diseases and conditions the writers included in this season, I found myself thinking back to second-year medical school lectures on pathology and infectious diseases," he said. "Naturally, when it came time for me to develop surgical scenarios, I found myself inspired by the patients I've taken care of as a medical student and resident."

Prescribed Narcotics Use Among Colorectal Surgery Patients Plummets After New Post-Surgery Protocol

A quality improvement initiative has led to a significant drop in narcotic pain medications prescribed to patients who undergo colorectal surgery at UF Health Shands Hospital.

“Fewer patients are receiving oral narcotics during their hospital stay. More importantly, we are discharging even fewer patients with prescriptions for narcotic pain medication. Often, patients become addicted after taking legally prescribed narcotics,” said [Atif Iqbal, MD](#), an assistant professor in the division of general surgery in the UF College of Medicine.

Overall, the total dosages of all narcotic medications, inpatient and outpatient, dropped from 2,481 mg of morphine equivalent dose, or MED, to 307 mg after institution of the protocol.

“It is a different way of thinking for some clinicians,” Iqbal said. “It is sometimes hard for a doctor to believe that someone who has had surgery does not automatically need narcotic pain medication, because we have been prescribing them for so long.”

The initiative is part of an enhanced recovery after surgery, or ERAS, protocol introduced at UF Health in mid-2015 that aims to reduce complications and readmissions and improve quality of care delivered to colorectal surgery patients. Iqbal and his colleagues also wanted to evaluate the use of narcotic pain medication amongst these patients. They compared narcotic prescriptions and usage between January 2013-June 2015, before ERAS protocol began, to July 2015-August 2017, after the introduction of ERAS protocol.

“We decided to compare narcotic use among our own patients,” he said. “We found that narcotic medication was not necessarily needed for pain control after surgery. We also found that we could significantly decrease the number of prescriptions we were writing. And, when narcotics were prescribed, the doses were much lower.”

Under the ERAS protocol, before surgery, patients receive an epidural catheter along with oral gabapentin, a nerve pain medication, and oral ibuprofen. During the procedure, they receive acetaminophen via IV, and postoperatively oral acetaminophen, ibuprofen and titrated doses of oral gabapentin.

“If that postoperative regimen does not control pain after the patient receives the maximum dose of gabapentin, we prescribe tramadol. If that medication isn’t effective enough, we will prescribe narcotics as needed during the hospital stay,” Iqbal said. “Patients only leave the hospital with a prescription for narcotic medication if the pain is not being controlled with non-narcotics multi-modal analgesics.”

The ERAS protocol allows patients who already are on a regular narcotic pain medication regimen at home before surgery to continue their narcotic medication after surgery, Iqbal said. A majority of the patients currently receiving narcotic medication, after institution of the ERAS protocol, fall under this group. Overall, the results showed an 87 percent decrease in the amount of total narcotic medications used after the ERAS protocol was initiated.

On the inpatient side, use of post-surgery pain pumps — which dispense narcotic medication — decreased from 63 percent to 7 percent. Additionally, the total number of doses dropped significantly, down to 23 mg from 1,254 mg.

As-needed oral narcotics were prescribed for 67 percent of patients, compared to 90 percent. The average medication dose also decreased by nearly half, Iqbal said. The amount of patients prescribed narcotics after discharge also decreased from 85 percent to 55 percent.

Changes to the electronic health record system also have helped prevent clinicians from automatically prescribing a narcotic.

“With the old template, clinicians could easily tick a box to prescribe these kinds of pain medication,” Iqbal said. “Physicians and surgeons can still prescribe narcotics, but they have to go to a subset order set. If a patient is specifically having issues, they can prescribe the narcotic, but you have to make an effort to find and write the order.”

From 2000 to 2015, nearly 500,000 Americans died of a fatal drug overdose, according to the U.S. Centers for Disease Control and Prevention. About 60 percent of those overdoses involve opioid, or narcotic, drugs and approximately half of those deaths were linked to a prescription opioid, according to the CDC. The federal agency called prescription opioids a “driving factor” in the number of opioid-related overdoses. Nationwide, in 2013 alone, health care providers wrote nearly a quarter-billion prescriptions for opioid medication, the CDC notes.

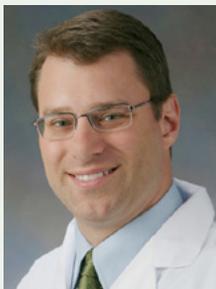


Overall, the total dosages of all narcotic medications, inpatient and outpatient, dropped from 2,481 mg of morphine equivalent dose, or MED, to 307 mg after institution of the protocol.

Five Department of Surgery Faculty Named University Term Professors

Five University of Florida Department of Surgery faculty have been named University Term Professors through the UF College of Medicine. Appointments are held for three years. The University Term Professorship Program rewards outstanding academic achievement.

[Scott A. Berceci, MD, PhD](#), named in the 2016-2017 academic year, is a professor in the division of vascular surgery and endovascular therapy.

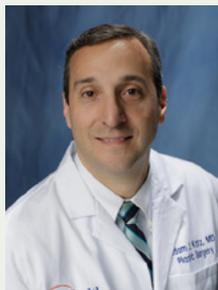


[Philip Efron, MD, FACS, FCCM](#), named in the 2016-2017 academic year, is an associate professor of surgery and anesthesiology; the medical director for the UF Health Shands Hospital surgical intensive care units and respiratory therapy; and the co-director of the Laboratory of Inflammation Biology and Surgical Science.

[Adam Katz, MD](#), named in the 2017-2018 academic year, is a professor in the division of plastic and reconstructive surgery.



[Frederick A. Moore, MD, FACS, MCCM](#), named in the 2017-2018 academic year, is a professor and chief in the division of acute care surgery.



[Salvatore T. Scali, MD](#), named in the 2017-2018 academic year, is an assistant professor in the division of vascular surgery and endovascular therapy.



Saleem Islam, MD, MPH, Joins UF Society of Teaching Scholars

[Saleem Islam, MD, MPH](#), a professor and chief of pediatric surgery in the University of Florida College of Medicine, was appointed to the UF Society of Teaching Scholars. Current members of the society select new members based on nominations and educational contributions.



The society's members are recognized experts who demonstrate excellence in teaching and commitment to educating physicians and scientists. They play an active role in the quality improvement process of the educational program, and also serve as mentors and role models for junior faculty, residents and students. Additionally, society members are advisors for the Faculty Development Committee and the College of Medicine Education Center.

Faculty Appointments

[Joshua Carson, MD](#), an assistant professor in the UF College of Medicine's division of acute care surgery, has joined the editorial advisory board of the Journal of Burn Care and Research.



[Thomas S. Huber, MD, PhD](#), a professor and chief of the division of vascular surgery and endovascular therapy in the UF College of Medicine, has been appointed to the Vascular Surgery Board of the American Board of Surgery.

Department Faculty and Resident Research Grants

Thomas Beaver, MD, MPH, professor and chief (co-principal investigator), and **Tiago Machuca, MD, PhD**, assistant professor (co-investigator), division of thoracic and cardiovascular surgery

\$1.6 million R01 grant (four years), NIH National Institute of Arthritis and Musculoskeletal and Skin Diseases, "The effect of intermittent hemidiaphragm stimulation during surgery on mitochondrial function, single fiber contractile force and catabolic pathways in humans."

Co-principal investigator with Beaver is A. Danny Martin, PT, PhD, FACSM, a professor in the UF department of physical therapy, UF College of Public Health and Health Professions.

Scott Brakenridge, MD, MSCS, assistant professor, division of acute care surgery (principal investigator)

\$222,582 R03 grant (two years), NIH National Institute on Aging, "The acute development and persistence of frailty, comorbidity, and disability in critically ill elderly patients after severe traumatic injury: Induced frailty."

Zhihua Jiang, PhD, assistant professor, division of vascular surgery and endovascular therapy (principal investigator)

\$1.4 million grant (three years), Florida Department of Health, "Mechanisms for tobacco smoke to modulate aortic aneurysm development."

Lyle Moldawer, PhD, professor and vice chair of research, Laboratory of Inflammation Biology and Surgical Science (principal investigator)

\$3.4 million R01 grant (five years), NIH Eunice Kennedy Shriver National Institute of Child Health and Human Development, "Microfluidic assessment of clinical outcomes in preterm newborns."

Jose Trevino, MD, assistant professor, division of general surgery, (co-investigator)

- \$1.2 million grant (three years), Florida Department of Health, "Initiating mechanisms of cancer cachexia."
- \$2 million R01 grant (five years), NIH, "FoxO signaling and skeletal muscle atrophy."

Principal investigator for each is Andrew Judge, PhD, associate professor, department of physical therapy, UF College of Public Health and Health Professions.

Ali Zarrinpar, MD, PhD, associate professor, division of transplantation surgery (principal investigator)

- \$556,111 UH2 grant (two years), NIH National Center for Advancing Translational Sciences, "Utilization of phenotypic precision medicine to identify optimal drug combinations for the treatment of hepatocellular carcinoma."
- \$775,320.00 K08 grant (five years), NIH National Institute of Diabetes and Digestive and Kidney Diseases, "Ischemia-reperfusion Injury in Liver Transplantation."

David Hall, MD, fifth-year general surgery resident (principal investigator)

\$32,500, American Lung Association, "Ex Vivo Modulation of the Endothelin-1 Axis in a Pre-Clinical Lung Transplantation Model." Faculty mentor: Tiago Machuca, MD, PhD

Steven Raymond, MD, fourth-year general surgery research resident (principal investigator)

\$35,000, Surgical Infection Society, "Novel Mechanisms and Approaches to Treat Neonatal Sepsis – Fellowship." Faculty mentor: Shawn Larson, MD

UF Researchers Hope Clinical Trial Will Lead to New Sepsis Treatment

University of Florida researchers are part of a nationwide clinical trial to evaluate whether an anti-cancer medication can be effective against sepsis and septic shock.

Sepsis is thought to blunt the immune system in ways similar to some kinds of cancer through PD-1, a protein emitted by certain cells in the body. Nivolumab, an immunotherapy drug approved by the Food and Drug Administration to treat patients with certain types of non-small cell lung cancer and other types of the disease, blocks PD-1 in cancer patients and helps the immune system recognize and destroy diseased tissue.

The clinical trial seeks to determine whether blocking PD-1 can also boost the immune system in patients with severe sepsis or septic shock. UF is the only center in Florida, and one of four in the Southeast, recruiting participants.

"Think of your immune system as a crackling fire, burning at a steady pace. Sepsis is like throwing gasoline on that fire. You get a huge flare and explosion but afterward, you are left with smoldering coals that do not work. The point is to get those smoldering coals back to a crackling fire again," said UF's lead investigator, Scott C. Brakenridge, MD, MSCS, FACS, an assistant professor of surgery and anesthesiology in the UF College of Medicine's division of acute care surgery.

"Instead of trying to blunt that immune explosion, we are focusing on ways to get the immune system back on its feet after it's been knocked down. The goal is to prevent prolonged immunosuppression so the body can fight infectious challenges."

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