

# MEDICAL REPORT™

ADVANCED CARE AND DIAGNOSTIC NEWS FOR PHYSICIANS AND HEALTH CARE PROFESSIONALS

## Cooper's New Express Admit Unit (EAU) Streamlines Admission for Non-Emergent Patients

When a primary care physician or other medical professional wants to admit a non-emergent patient to the hospital but a bed isn't immediately available, it often means that the patient must wait at home, at the physician's office, in the hospital admitting area or – sometimes – in the Emergency Department (ED).

Not anymore.

In mid-January, Cooper University Hospital launched its Express Admit Unit (EAU), providing an expedited

**"Our overall objective in launching the EAU is to provide a comfortable environment in which patients can get fast access to personalized nursing care until a bed is ready for them."**



Kara S. Aplin, MD  
Medical Director,  
Clinical Decision Unit

admission process for patients who are in need of hospitalization but don't require ED care.

"This means patients no longer need to wait before starting their care," says hospitalist Kara S. Aplin, MD, Medical Director of Cooper's Clinical Decision Unit, one of the physician champions of this initiative. "Instead, we can begin that care almost immediately in the EAU, where a nurse provides personalized

attention for each patient."

"Our goal is to streamline the admission process and give patients the right care in the right setting at the right time," adds hospitalist Susan C. McAllister, MD, Medical Director of Care Management at Cooper, another physician champion of the EAU. "Referring physicians simply need to call Cooper's Logistics Center, and we'll take it from there." [See sidebar on page 2 for details about the admission process.]



One of the five private and newly refurbished rooms at the new Express Admit Unit (EAU) at Cooper University Hospital.

The physicians point out that the EAU also helps to alleviate potential overcrowding in the ED, reserving its advanced resources for patients who require that level of care.

### EAU OVERVIEW

Located on the fifth floor of the Kelemen Building, the EAU is open 9 a.m. to 9 p.m., Monday through Friday. The unit  
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## Cooper's New Express Admit Unit (EAU) Streamlines Admission for Non-Emergent Patients (continued)

comprises five private and newly refurbished rooms, each with a medical recliner equipped with oxygen and suction capability. Each room also has a flat-screen television.

While the patient is in the unit, a registered nurse performs serial vital signs and re-evaluations, as needed, until the patient is transferred to an inpatient bed. The nurse also keeps the patient informed about his or her admission process. The goal is to limit EAU stays to 90 minutes or less.

"It's important to note that this unit does not replace the Emergency Department if a patient needs that level of triage and acute care," Dr. Aplin stresses. Also, should a patient become unstable after EAU arrival or during the admission process, a Rapid Response or Code Blue would be called.



Susan C. McAllister, MD  
Medical Director,  
Care Management

### PATIENT SELECTION

"This unit is designed for medical, surgical or telemetry patients who are awaiting a floor bed, not those who need a higher level of care such as a step-down unit or ICU," Aplin continues.

"For example, this could be a patient who's coming in from her physician's office with an infection, someone who had abnormal lab studies and needs further evaluation and

treatment in the hospital, or a patient with uncontrolled pain," McAllister explains.

Conversely, the patients who are not appropriate for the EAU include those under age 18, who need

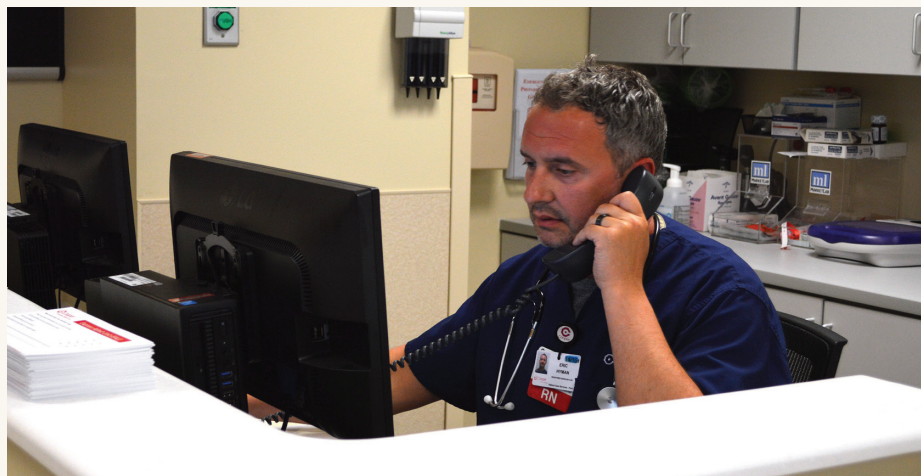
isolation (with the exception of protective isolation for neutropenia), require a higher level of care or actual Emergency Department evaluation, or are unable to get in and out of a recliner or transfer to a toilet by themselves.

Other exclusions are patients who require immediate telemetry monitoring, or those who need to be on a stretcher or arrive by ambulance.

"Our overall objective in launching the EAU is to provide a comfortable environment in which patients can get fast access to personalized nursing care until a bed is ready for them," Aplin says.

"We want to provide a positive experience for Cooper patients, and make it easy for their physicians to make that possible," McAllister adds. ■

**"It's important to note that this unit does not replace the Emergency Department if a patient needs that level of triage and acute care,"**



The new Express Admit Unit (EAU), located on the 5th floor of the Kelemen Building at Cooper University Hospital.



### How to Admit a Patient to the EAU

If you have a patient who requires admission to Cooper University Hospital, simply call our Logistics Center at 856.342.3080.

Our Clinical Operations Director (COD), a registered nurse who oversees bed management, will determine bed availability.

From there, if the patient is to go to the EAU, we'll coordinate the entire admission process including evaluating your patient, notifying the EAU of an incoming patient, transporting your patient to the EAU and generating admission orders. The EAU nurse will complete any initial orders such as IV, labs and stat medications, and close the loop by notifying the COD of the need for a bed.

If the EAU is at capacity, the COD will make alternative arrangements for your patient.

Once admitted through the EAU, patients are on the service of the accepting physician ensuring comprehensive care management and coordination during their inpatient stay. ■

**For more information about the EAU, please call 856.342.3080. To refer a patient, please see sidebar.**



# CMSRU Faculty Participate in Groundbreaking Epilepsy Study

Russell J. Buono, PhD, and Thomas N. Ferraro, PhD, professors of Biomedical Sciences at Cooper Medical School of Rowan University (CMSRU), were part of a team of more than 100 epilepsy researchers from around the globe who collaborated on an important epilepsy research study that was recently published in the prestigious periodical *The Lancet Neurology*.

The study analyzed the largest genome-wide association data set to date on DNA samples from epilepsy patients in order to identify the genetic influences on common forms of human epilepsy. Through their analysis, they successfully identified new genetic variants associated with common forms of the disease. This multinational

*"This study will definitely lead to more in-depth analysis of these genes. Hopefully, we will soon understand why changes in these genes can increase risk for epilepsy."*

collaboration of researchers organized and published as the Consortium on Complex Epilepsies under the umbrella of the International League Against Epilepsy (ILAE).

The Consortium included epilepsy clinicians and researchers from the United States, Canada, United Kingdom, Ireland, Australia, Germany, Austria, Finland, Denmark, Italy and Hong Kong.

"The ILAE provided the necessary framework that allowed us to successfully collaborate on this unprecedented scale," explained Buono. "Because of the wealth of experienced and knowledgeable clinicians and researchers and the large number of samples that were analyzed, the power and significance of this study was greatly enhanced."

Buono led the "Philadelphia Consortium," which collected a cohort containing more than 2,000 epilepsy DNA samples collected by clinicians at Thomas Jefferson University Hospital, the Hospital of the University of Pennsylvania, The Children's Hospital of Philadelphia, the University of Cincinnati, the University of Montreal, Harvard and Nationwide Children's Hospital in Columbus, Ohio. Buono and Ferraro are renowned epilepsy and genetic researchers, and they collaborated on a number of important studies before joining

the faculty at CMSRU.

The *Lancet Neurology* study, titled "Genetic determinants of common epilepsies: a meta-analysis of genome-wide association studies," evaluated samples from nearly 9,000 patients diagnosed with epilepsy and more than 26,000 normal controls. Two genes stood out as having broad implications for epilepsy.

One gene encodes a sodium channel subunit that regulates

neuronal excitability (SCN1A) and has previously been associated only with certain familial and severe childhood epilepsies. The Consortium study suggested that it may have an even broader role in common forms of epilepsy. According to Ferraro, this was not an unexpected finding given that most of the available anti-epilepsy medications work against sodium channels.

Another gene (PCDH7) newly implicated in epilepsy by this analysis encodes the protein protocadherin, which helps brain cells bind together and communicate with each other. This discovery was unexpected and suggests that the factors that contribute to common epilepsies are more complex than originally thought and may involve abnormalities in the basic cellular structure and early wiring of the brain.

According to Buono, this massive study highlights the complexity of the genetics of epilepsy as well as the importance of collaboration by multinational groups to better understanding of the many factors that contribute to the disorder.

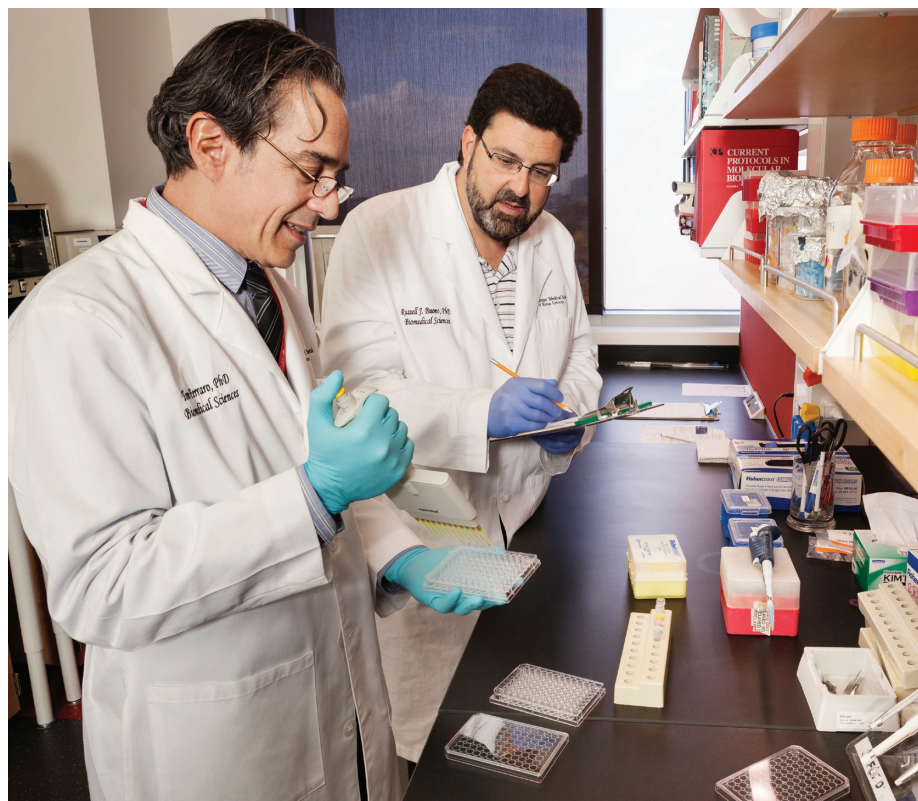
"This study will definitely lead to more in-depth analysis of these genes. Hopefully, we will soon understand why changes in these genes can increase risk for epilepsy," said Buono. "Once we do, we will be one step closer to finding better diagnostics, treatments and perhaps even a cure for this debilitating condition."

Epilepsy is a chronic neurologic disorder, the hallmark of which is recurrent, unprovoked seizures. It affects roughly 1 percent of the world population, not discriminating on sex, ancestry or geography. Worldwide, 65 million people have been diagnosed with epilepsy, including more than two million Americans. One third of people with epilepsy live with uncontrollable seizures because no available medication works for them. ■

Thomas N. Ferraro, PhD, and Russell J. Buono, PhD, professors of Biomedical Sciences, collaborate on groundbreaking epilepsy research in the laboratory at Cooper Medical School of Rowan University.



**Cooper Medical School  
of Rowan University**



# Nephrology Care at Cooper: Experience and Expertise for a Growing Problem

When it comes to renal disease in the U.S., the numbers tell a compelling medical and economic story, relates Lawrence S. Weisberg, MD, FACP, FASN, Head of Cooper's Division of Nephrology.

"Patients with end-stage renal disease (ESRD) make up about 1 percent of the Medicare population, yet they account for about 7 percent of Medicare expenditures," Weisberg says.

"ESRD is one of the few conditions for which Americans are entitled to Medicare coverage regardless of their age," he continues, "and there are an estimated 600,000 people in this country who have lost enough of their kidney function that they can't survive without renal replacement therapy—either dialysis or transplantation. It costs a great deal to provide high-quality care for these complex patients."

Weisberg notes that diabetes is a "huge contributor" to the incidence of ESRD, with about 45 percent of patients on dialysis today as a result of it.

"Because the prevalence of diabetes has increased over the past several decades, the prevalence of kidney disease has increased as well," he says.

This prevalence varies a great deal by locale; however, the highest rates are seen in the deep South and across Ohio, Indiana and Illinois.

"Here in New Jersey we see a moderate prevalence (the number of patients living with ESRD) and a fairly high incidence (the number of new cases of ESRD per year)," he notes.

Fortunately, Cooper has the expertise to care for this growing, complex patient population.

"We provide the full spectrum of care to patients with kidney disease, short of transplantation, and manage a large number of patients with chronic kidney disease at various stages," Weisberg says.

In fact, Cooper now cares for more than 400 patients with ESRD in dialysis clinics throughout South Jersey.

In addition, Weisberg notes, "Cooper has particular expertise in caring for patients with acute kidney injury—the



Lawrence S. Weisberg, MD,  
FACP, FASN  
Head, Division of  
Nephrology

second-biggest problem in nephrology after ESRD."

Acute kidney injury refers to the sudden deterioration of renal function, usually associated with other acute conditions such as sepsis, shock or a difficult operative course.

"We have this region's longest experience in continuous renal replacement therapy (CRRT) for patients with acute kidney injury," Weisberg notes. "We've been doing this for over 25 years."

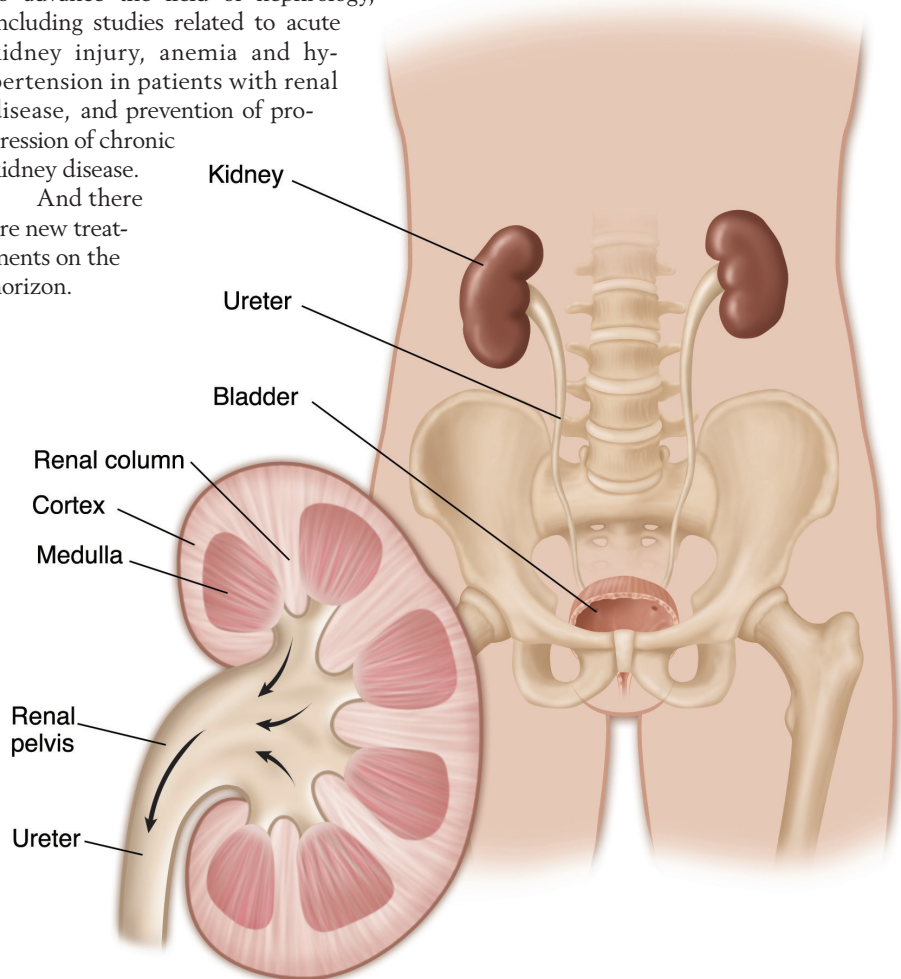
CRRT is a form of dialysis that delivers slow, continuous therapy 24/7, conferring significant advantages for high-acuity patients who are hemodynamically unstable. Cooper also is involved in clinical research to advance the field of nephrology, including studies related to acute kidney injury, anemia and hypertension in patients with renal disease, and prevention of progression of chronic kidney disease.

And there are new treatments on the horizon.

"Immune modulation is an emerging therapy for a form of kidney disease called glomerulonephritis," Weisberg says. "We're taking advantage of treatments developed for other immune conditions and applying them to these patients with encouraging results."

There also is encouraging news about renal disease overall.

"While the prevalence of ESRD has continued to increase over the last 20 years, the survival rate of patients on dialysis has improved in that time," Weisberg says. "This used to be a population with a mortality rate of over 20 percent a year, and now it's below 15 percent. That's a huge improvement, and it speaks to improvements in the quality of nephrology care provided over the last two decades." ■



**If you have a question about nephrology care at Cooper or want to refer a patient, please call Dr. Weisberg's office at 856.757.7844.**



# The Neurointerventional Surgery Program at Cooper: Advanced Endovascular Techniques, Significant Patient Benefits

The term “breakthrough” is frequently bandied about in the medical field. But in the realm of neurointerventional surgery, innovative endovascular techniques offer truly groundbreaking, minimally-invasive options for treating an array of conditions of the brain, head and neck, spine and spinal cord — with tremendous patient benefits.

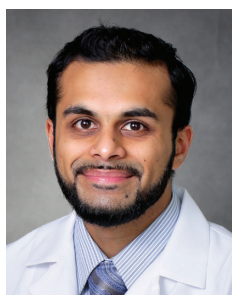
The Cooper Neurological Institute is home to one of the most advanced neurointerventional surgical teams in the tri-state area, directed by neurointerventional surgeon Hamza A. Shaikh, MD.

“One of the major advantages of this rapidly evolving subspecialty is that we can treat patients who otherwise couldn’t undergo open surgery or other traditional approaches,” says Shaikh. “With endovascular treatment — navigating a microcatheter from the femoral artery through the vascular system — patients experience shorter recovery times and better outcomes.”

Acute stroke intervention is a case in point. A recent study published in the New England Journal of Medicine confirms that the addition of endovascular clot removal is more effective than IV-tPA therapy alone for the treatment of ischemic stroke.

The MR CLEAN (Multicenter Randomized Clinical trial of Endovascular treatment for Acute ischemic stroke in the Netherlands) study showed that inside-the-artery clot removal (intracranial mechanical thrombectomy) during early treatment nearly doubled the likelihood of a good neurological outcome, and that it worked well for patients who had received IV-tPA and for those who had contraindications for

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Hamza A. Shaikh, MD,  
Neurointerventional  
Surgeon

the clot-busting drug.

According to the Society of NeuroInterventional Surgery (SNIS), these endovascular procedures using clot-removal devices have potential life-saving benefits for almost 300,000 patients a year in the U.S. who suffer a stroke with large-vessel blockage — which represents 40 percent of the 695,000 people who suffer acute ischemic stroke annually. Plus, neurointerventional

surgery can be performed up to eight hours from the onset of stroke, significantly expanding the treatment window from the 4.5 hours for tPA.

“This neurointerventional approach is now the standard of care in appropriately selected patients,” Shaikh notes. “Here at Cooper we use the exact same protocol from this study.”

Shaikh also performs transcatheter tPA thrombolysis in certain ischemic stroke patients, injecting tPA directly into a blood clot through a microcatheter placed in a blocked brain artery.



Stryker Trevo Stent retriever  
above and below.

Other endovascular interventions that Shaikh and the team perform include embolization for cerebral aneurysms, arteriovenous malformations (AVMs), dural AVMs, spinal AVMs, arteriovenous fistulae, moyamoya disease and cavernous malformations.

They also embolize certain brain and head-and-neck tumors.

“We can go in and block the blood supply feeding the tumor so the surgeon can remove it safely without much blood loss,” Shaikh explains.

“With Cooper being a trauma center, we also are called on to treat patients with injuries to the arteries that supply the brain or those within the brain,” he continues. “In addition, we are able to treat fractures within the spine and inject pain medication using image guidance.”

The team also performs angioplasty and stenting for intracranial and carotid artery stenosis.

“Ours is a comprehensive cerebral vascular program that’s on a par with the best institutions in the area,” Shaikh adds. “And, we offer 24/7 coverage for emergencies and hospital transfers.” ■



**For more information about Cooper’s neurointerventional surgery capabilities and treatment protocols, Dr. Shaikh encourages physicians to call him directly at 908.227.9738.**

# Childhood Asthma: Discovering New Links

Asthma is not only one of today's most common chronic childhood diseases, with about 6.8 million children currently suffering from asthma in the United States alone, but its incidence continues to rise.

"No one has quite figured out why," says M. Jawaad Hussain, MD, faculty member of the Department of Pediatrics, Division of General Pediatrics at the Children's Regional Hospital at Cooper, and Assistant Professor of Pediatrics at Cooper Medical School of Rowan University.

"Is it more air pollution, or increased rates of obesity contributing to an inflammatory response?" he asks. "Or is it the hygiene hypothesis, in which a lack of early-childhood exposure to infectious agents modifies the immune system's development? Or perhaps a combination of these factors, or something else entirely?"

"What we do know is that there are many factors that increase the risk of having asthma," Hussain continues. "There's definitely a genetic risk for children who have parents with asthma. Exposure to



M. Jawaad Hussain, MD  
Department of Pediatrics,  
Children's Regional Hospital  
at Cooper

cigarette smoke and a history of eczema also confer a greater risk of developing asthma."

New information also suggests that poverty may increase asthma risk.

"Previous thinking was that this was an urban phenomenon, perhaps linked to pollution," Hussain notes. "But data from the 2012 National Health Interview Survey showed an increased risk was linked to socioeconomic

class regardless of urban or rural setting. A child in a poorer family has about a 14 percent risk of having asthma, whereas a child growing up in a different environment only has an 8 percent risk. Although there's a link, researchers are still sorting out the specifics."

Fortunately, an armamentarium of effective asthma treatments exists.

Bronchodilators, or beta 2 agonists, are the mainstay of emergency treatment for acute asthma exacerbations (and sometimes long-term management) by relaxing the smooth muscles in the lungs. Inhaled corticosteroids prevent inflammation and the loss of airflow and the long-term airway remodeling or scarring that can result. Leukotriene modifiers (such as Singulair® and Accolate®) work by diminishing the pathway that leads to inflammation.

"Bronchodilators are great for opening up the lungs when a child is sick or about to be, as with exercise-induced asthma," Hussain says. "Many athletes will use the medicine before a game or practice.

"When used appropriately, inhaled steroids work really well. They are very safe

*"Previous thinking was that this was an urban phenomenon, perhaps linked to pollution. But data from the 2012 National Health Interview Survey showed an increased risk was linked to socioeconomic class regardless of urban or rural setting."*

and are rarely accompanied by side effects."

"Leukotriene modifiers work great. A small percentage of patients experience personality changes on these drugs, but for many it's effective medication with little to no side effects."

For severe asthma, he notes that there is a newer immune modulator (omalizumab or Xolair®) which is administered intravenously. Its management by a pediatric pulmonologist or allergist is advised.

"None of these drugs are curative," Hussain says, "but they allow kids to have a normal life when taken appropriately. And that's what treatment is all about – enabling kids to do what their peers can do, without ending up in the hospital."

In addition to proper medication use, Hussain stresses the importance of educating both patients and parents.

"Adherence and technique are key," he says. "Parents also need to recognize signs and symptoms, like coughing at night, and tell their pediatrician. And pediatricians shouldn't be afraid to step up treatment if symptoms aren't under control."

Dr. Hussain also emphasizes the importance of each patient having an asthma action plan, and recommends the customizable template available on the website of the Pediatric/Adult Asthma Coalition of New Jersey ([www.pacnj.org](http://www.pacnj.org)).

"If, despite everything, a patient's asthma isn't under control, Cooper has specialists in pediatric asthma," he adds. "While the ER is the place to go in a true emergency, it is not the place to assess chronic symptoms—and these are the factors that limit a child's enjoyment and quality of life." ■

**If you have a question about childhood asthma or want to refer a patient, please email Dr. Hussain at [hussain-mohammed@cooperhealth.edu](mailto:hussain-mohammed@cooperhealth.edu).**





# Revitalized Research Program at Cooper Holds Tremendous Promise for Patients

When Spencer A. Brown, PhD, became Director of Surgical Research at Cooper University Health Care's Department of Surgery last July, it signaled the start of a renewed research focus and new mission.

"We're pivoting away from basic science and toward clinical translational research," Dr. Brown explains. "As our department chairman, Jeffrey P. Carpenter, MD, says, 'We're not doing science fair projects; all our research is dedicated to improving clinical care for the patient.'"

"Put another way, our research machinery isn't geared solely toward PhDs doing experiments," Brown continues. "It's driven by clinical faculty members who have ideas for improving patient care that they want to put into clinical practice—if they had stem cells or this device or adopted that technique, then they would be able to do X for their patients."

"It's an approach that requires working with industry, the FDA and Cooper's institutional review board (IRB) to ensure patient safety and to conduct research to determine if these are good ideas or not," Brown adds.

Brown's expertise in this area was most recently honed at the University of



Spencer A. Brown, PhD  
Director, Surgical Research,  
Department of Surgery

Pittsburgh School of Medicine's McGowan Institute of Regenerative Medicine.

Brown notes that the Department of Surgery's translational research initiative is initially focused on trauma, plastic surgery, orthopaedics and infectious disease.

"Advanced regenerative medicine is in our toolset," he says, "and we're looking at this with the use of stem cells, bioscaffolding and new devices,

and sometimes in combination with new and existing drugs."

To support these initiatives, the science lab has been reorganized to be CORE (centers for research excellence)-based. CORE labs are built around specific technology areas with dedicated, shared resources required for clinical translation medicine. Cooper's CORE labs include those focused on cell biology, analytics and imaging.

One of the first achievements on Dr. Brown's watch with the primary leadership of John Chovanes, DO, has been the launch of the Trauma Research and Treatment Alliance (TRaTA), a unique South Jersey consortium that gets everyone involved in the region's trauma care on the same page—and to start testing ways to

The TRaTA initiative recently kicked off with a three-day event for emergency medical services and law enforcement personnel; over 110 representatives from local, county and state agencies participated. Notably, TRaTA also will be working with the Department of Defense and its significant trauma research program, serving as a proving ground for new evidence-based trauma techniques and technology.

improve the standard of care.

"Until now there has been no coordinated communication about new devices or standards of trauma care within South Jersey," Brown notes. "With TRaTA, we can look at different treatment options, test new devices and have everyone—including first responders—under one coordinated structure to see if something works or not."

"It's the first time that all trauma personnel in this region are able to partner from a research prospective on ways to improve care," he adds.

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Another measure of the renewed momentum in surgical research at Cooper is a dramatic increase in the number of research projects underway since Brown's arrival—and recognition of its relevance and value.

"Our residents, under faculty supervision, will be presenting at five national meetings so far this year," he notes.

For Brown, however, the real measure of success is the potential these initiatives hold for patients and their physicians.

"Research provides hope," Brown states. "All of us are striving to provide the best-possible care, which is a continual process and it requires a unified team effort between clinicians, scientists and industry." ■



**Community physicians are encouraged to contact Dr. Brown at 856.757.7855 or individual Department of Surgery faculty members to learn about clinical trials for which their patients may be eligible.**



3 Executive Campus, Suite 240-B  
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For more information about the **Cooper Transfer Center**, contact Karen N. Gruber, RN, BSN, CEN, Director of Operations, Urgent and Emergent Services, at 856.342.2429.



For more information: **[SJMedicalReport.com](http://SJMedicalReport.com)**



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