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SYRACUSE, NEW YORK

CLINICAL UPDATE May 2010

Therapeutic Hypothermia Curbs Cognitive Loss

Upstate University Hospital's Neurocritical Care Service lowers body temperature to reduce brain inflammation and cognitive damage following cardiac arrest.

Page A2

Heart & Vascular Institute Under Construction

The sixth floor of Upstate University Hospital is in the midst of a major reconstruction to integrate cardiac and related vascular services.

Page A4

John McCabe MD Leads National Certification Panel

Upstate University Hospital's CEO is the new president of the board of the American Board of Medical Specialties (ABMS), which develops and applies rigorous certification standards for physician specialists.

Page A7

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Therapeutic Hypothermia after Cardiac Arrest & Stroke

"It's a Cool Thing."

Catherine Stephens RN, BSN, CNRN and Julius Gene Latorre MD, MPH, with University Hospital's Arctic Sun therapeutic hypothermia system. Dr. Latorre first utilized cooling therapy during his fellowships – in vascular neurology and neurocritical care – at Massachusetts General Hospital.

To help preserve cognitive function after cardiac arrest and to reduce intracranial pressure following a stroke, Upstate University Hospital now offers therapeutic hypothermia. The cooling procedure reduces the patient's body temperature to 91 degrees F, curbing brain inflammation — and the cascade of events that cause brain cells to die after cardiac arrest or stroke.

"It's a cool thing we're doing here. We're seeing good outcomes for the heart and for the brain," says Julius Gene Latorre MD, MPH, assistant professor of neurology and director of the hospital's Neuroscience Critical Care Service.

"The brain's response to an insult like cardiac arrest is inflammation, but sometimes inflammation does its job too well," he explains. "Therapeutic hypothermia suppresses inflammation and lowers the patient's metabolic needs. It improves survival rates and reduces cognitive loss."

Significant Improvement

In general, about two out of 10 people survive cardiac arrest, often with cognitive impairment, Dr. Latorre reports. "With therapeutic hypothermia, between four and five patients survive and return to normal living. It's a significant improvement in how we take care of patients after a commonly fatal condition."

In 2005, the American Heart Association recommended therapeutic hypothermia as one of its guidelines for post-resuscitation treatment.

Only at Upstate University Hospital

Locally, therapeutic hypothermia is available only at University Hospital. "In addition to the cooling technology, treatment requires a quick response and

Cooling pads are strategically placed on the patient's body to bring the temperature down to 91° F. A thermostat maintains the desired temperature.

a well-orchestrated protocol for care. It's critical that patients be properly evaluated and medicated, because their bodies automatically fight cooling.

"To be effective, therapeutic hypothermia requires intensive care," adds Dr. Latorre. "At University Hospital, we have all the infrastructure, including neurologists and nurses capable of monitoring these patients."

Window of Opportunity

To be eligible for treatment, patients must meet certain criteria, including appropriate brain activity, notes Catherine Stephens RN, BSN, CNRN, manager of Neuroscience Critical Care. "Therapeutic hypothermia can generally be administered up to 6 to 8 hours after cardiac arrest, but it's best if started as soon as possible."

Patients are not conscious during the therapy.

Long-Recognized

The hypothermia concept is not new. "We've known for centuries that exposure to cold alleviates the effect of acute illness and trauma," says Dr. Latorre. During the Napoleonic Wars, wounded soldiers who remained hypothermic in snow while awaiting treatment survived longer than those near the fire. As recently as the 1950s, patients were plunged into ice baths or iceboxes during heart surgery to protect the brain.

"In theory, it sounded good," Dr. Latorre says. "In practice, it was difficult to monitor and maintain the desired temperature."

In the past decade, new technology and protocols have resolved these issues.

Innovative Technology

The Arctic Sun system used at University Hospital mimics immersion in cold water, according to Stephens. "The body surface is cooled by pads that wrap around the torso and legs.

"We enter the temperature into the machine, and, within an hour, the patient reaches target level with little fluctuation. A continuous temp probe ensures accuracy, and the treatment is typically administered to cardiac arrest patients for 24 hours."

At University Hospital, therapeutic hypothermia is also used in the Neurocritical Care Unit to relieve intracranial pressure in patients with ischemic and hemorrhagic stroke, ruptured brain aneurysm and brain trauma. It can also be used to treat brain swelling resulting from encephalitis and meningitis. In addition, patients with persistent high grade fever unresponsive to usual treatment may benefit from therapeutic temperature modulation.

UPSTATE
HEART & VASCULAR INSTITUTE

Opening Fall 2010

Construction Underway:

Upstate's Heart & Vascular Institute

This winter, mallets began taking down the walls of the sixth floor auditorium and surrounding offices as demolition crews prepared the space for Upstate University Hospital's long-planned and state-of-the-art Heart & Vascular Institute (HVI).

Consuming 18,500 square feet, the project includes the entire west wing and portions of the north and south wings on the sixth floor, areas that were vacated last summer when patients and offices moved to the 8th floor (cardiovascular floor) of the hospital's new East Tower.

With a considerable nod to the trend that sees many cardiovascular procedures moving from inpatient to outpatient, the HVI has been designed as a welcoming environment for all patients. It consolidates invasive and non-invasive cardiac diagnostic testing into one cohesive and attractive space while integrating data management systems for maximum efficiency.

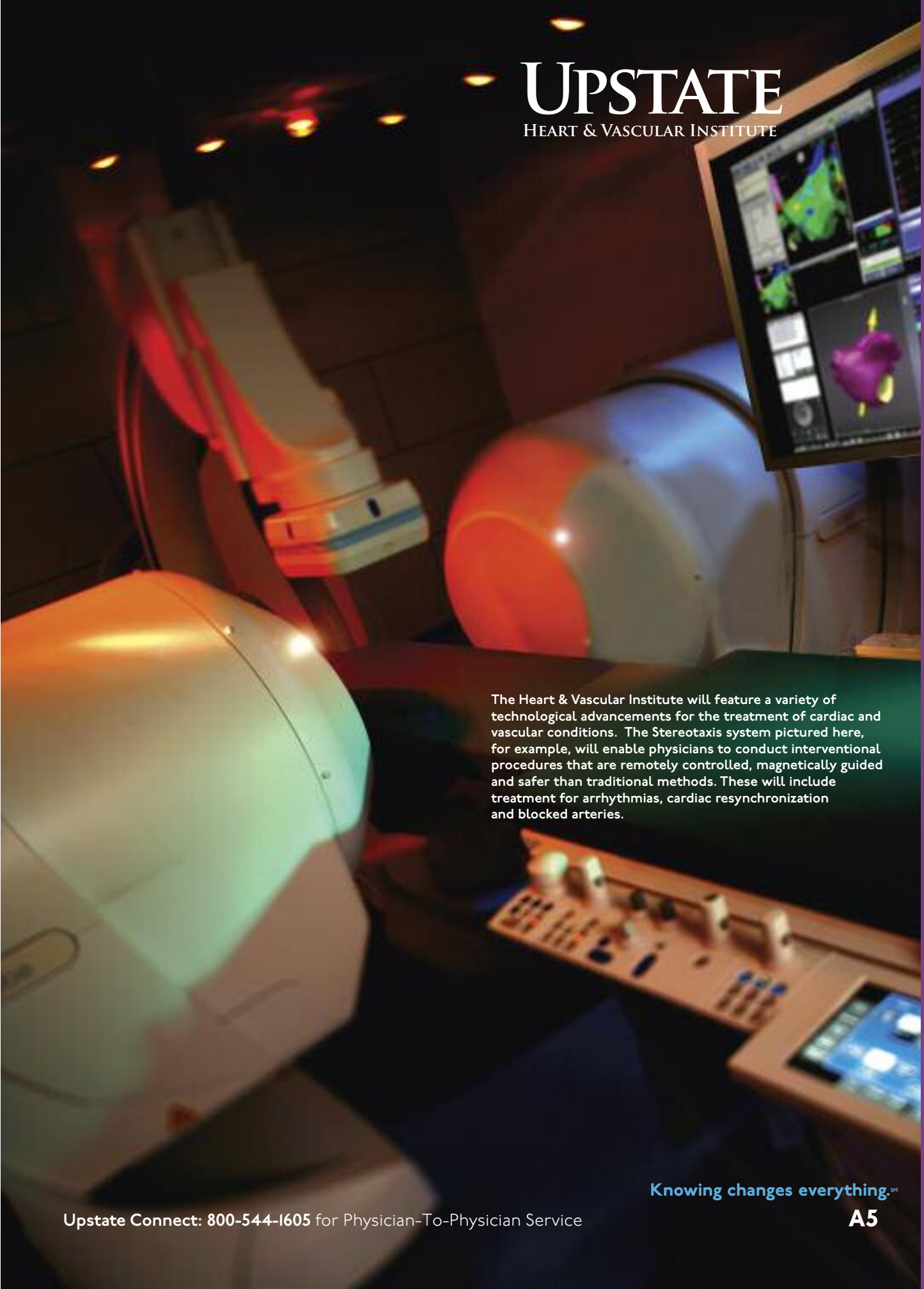
An endovascular imaging suite will accommodate peripheral and hybrid* vascular and cardiac procedures; the digital-based cardiac "cath" lab; a new stereotaxis magnetic navigation system; and expanded echocardiography capabilities offering 3D and 4D imaging and reconstruction of various heart structures.

Cardiac computed tomography (CT) and magnetic resonance (MR) imaging capabilities will also be expanded. The Institute also features an eight-bed recovery area and family and patient education, consultation and waiting rooms, and, of course, modern aesthetics. ■

*** a combination of invasive and non-invasive procedures**

Upstate cardiovascular staff and administrators gather this winter at the construction site of Upstate's Heart and Vascular Institute. Cannon Design, Buffalo, NY, is the architect.

Left to right: Steven McClintic, associate administrator; Daniel Villarreal MD, chief of cardiology; Katie Mooney RN, MS, CNAA, chief nursing officer; Luna Bhatta MD, electrophysiologist; in front, Paul Seale, chief operating officer; on ladder, Robert Cooney MD, chair of surgery; Kwame Amankwah MD, cardiovascular surgeon; Michael Iannuzzi MD, chair of Medicine; John McCabe MD, chief executive officer; and Hani Kozman MD, (kneeling at right) interventional cardiologist.



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HEART & VASCULAR INSTITUTE

The Heart & Vascular Institute will feature a variety of technological advancements for the treatment of cardiac and vascular conditions. The Stereotaxis system pictured here, for example, will enable physicians to conduct interventional procedures that are remotely controlled, magnetically guided and safer than traditional methods. These will include treatment for arrhythmias, cardiac resynchronization and blocked arteries.

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HEART & VASCULAR INSTITUTE


Lewis W. Johnson MD, FACC, CDE


Kan Liu MD, PhD


Robert R. Michiel MD, FACC, FCCP


Ali K. Salah MD

Four Heart Specialists Join Upstate

Upstate Medical University welcomes four new cardiologists:

Lewis W. Johnson MD, FACC, CDE, most recently a clinical professor of medicine at Upstate, has held many professional appointments at Upstate, St. Joseph's Hospital Health Center and Crouse Hospital in Syracuse. He received his MD from Upstate and served his internship at St. Joseph's Hospital. He is board certified in internal medicine and in cardiovascular disease and is certified as a specialist in clinical hypertension by the American Society of Hypertension. Because of his specialty interest in diabetes and heart disease, Dr. Johnson will be on site at Upstate's Joslin Diabetes Center.

Kan Liu MD, PhD comes to Upstate Medical University from Washington University School of Medicine, where he completed his clinical fellowship at Barnes-Jewish Hospital, Division of Cardiovascular Disease. Previously he was an internal medicine resident at the University of Texas Medical Branch. He earned his PhD from the Departments of Internal Medicine and Cellular Biology at the University of Alabama and was a research fellow at the Division of Cardiology and Howard Hughes Medical Institute in Baylor College of Medicine. Dr. Liu earned his MD from Sun Yat-Sen University of Medical Sciences. He is board certified in internal medicine and cardiovascular disease and is an author of the Washington Manual, *Cardiology Consult.*

Robert R. Michiel MD, FACC, FCCP was previously in private practice in Syracuse. He received his MD from the University of Pennsylvania School of Medicine and served his internship, residency and fellowship in cardiology at Upstate. He has had appointments at all hospitals in Syracuse. He is board certified in internal medicine and in cardiovascular disease.

Ali K. Salah MD comes to Upstate from St. Francis Heart Hospital at SUNY Stony Brook, where he completed a fellowship in advanced cardiovascular MRI, CT and echocardiography imaging. He completed a fellowship in cardiovascular MRI at the Washington Hospital Center at Georgetown University and a fellowship in cardiology at Gill Heart Institute at the University of Kentucky. He was an internal medicine resident at the Medical College of Georgia. He completed medical school at Addis Ababa University School of Medicine, where he also served an internship in medicine, surgery and pediatrics. Dr. Salah is board certified in cardiology, comprehensive echocardiography, cardiovascular CT and internal medicine. His interests include heart and vascular imaging, coronary and peripheral arterial diseases, heart failure and adult congenital heart disease. ■

John McCabe MD Chairs Key National Certification Board

John McCabe MD, chief executive officer of Upstate University Hospital and senior vice president for hospital affairs at Upstate Medical University, has been named chair of the board of directors of the American Board of Medical Specialties (ABMS). The organization oversees the certification of physician specialists in the United States.

Dr. McCabe joined ABMS in 1999 and most recently served as the vice chair of its Board of Directors. He served as a director of American Board of Emergency Medicine (ABEM) from 1996 to 2006, and has held all offices within that organization including president of the board from 2004 to 2005.

"John McCabe is an outstanding leader in advancing the ABMS mission to improve the quality of medical care through enhanced physician accountability," says Kevin B. Weiss MD, ABMS president and CEO. "He will be a valuable asset as ABMS moves forward with its commitment to develop and apply rigorous professional and educational standards for the certification of physician specialists and the maintenance of certification throughout their careers."

For more than 75 years, the American Board of Medical Specialties has assisted in the development and implementation of educational and professional standards for the evaluation and certification of physician specialists.

In addition to his administrative responsibilities at Upstate, Dr. McCabe serves as professor of emergency medicine and senior vice president for hospital affairs.

He was instrumental in the development of Upstate's Department of Emergency Medicine and its residency program. He also assisted in the creation of a mass casualty unit and upgraded infirmary at the New York State Fairgrounds and developed an emergency medicine simulation center for the training of medical residents and area EMS professionals. He oversaw the recent expansion of University Hospital's Emergency Room, and expanded the university's hyperbaric medicine program, including the development of a Hyperbaric Medicine Fellowship training program. Upstate University Hospital has one of only several 24-hour hyperbaric programs in the state.

Dr. McCabe earned his medical degree from Upstate in 1979 and completed his internship at the Charles F. Kettering Medical Center in Kettering, Ohio, and his residency in emergency medicine at Wright State University School of Medicine in Dayton, Ohio. He is board-certified in emergency medicine and hyperbaric medicine. ■