



Carolinus HealthCare System
Levine Cancer Institute

Levine Cancer Navigator

Winter 2013

Nationally Recognized Prostate Cancer Care

ADVANCES IN RADIATION ONCOLOGY IMPROVE PATIENT OUTCOMES

Treating prostate cancer with brachytherapy involves using many needles to deliver radiotherapy directly to the tumor. But Levine Cancer Institute, part of Carolinus HealthCare System, is the first in the world to use real-time technology to perform high-dose rate (HDR) brachytherapy that avoids moving the patient for CT scans, markedly cutting recovery time while more comfortably delivering treatment.

Michael Haake, MD, medical director of Carolinus Medical Center Radiation Oncology, was the lead physician during the groundbreaking procedure this past spring. The procedure was performed on a patient in his early 60s with intermediate-risk prostate cancer. Using the latest software, the new HDR brachytherapy technique generates ultrasound images in the operating room – allowing anesthesia, treatment planning and needle insertion to occur in one place rather than moving the patient, after needles have been inserted, to another area for CT scans.

This technology, which will likely be used to treat between six and 15 patients each year with



Michael Haake, MD
Medical Director
of CMC Radiation
Oncology

intermediate-to-high-risk prostate cancers, also allows physicians to revise the patient's treatment plan on the spot to further enhance precision. Like other HDR brachytherapy, it guides radioactive sources into or near a tumor, removing them at the end of each treatment session. Low-dose rate brachytherapy typically places radioactive seeds into the prostate that remain there permanently.

the prostate that remain there permanently.

"We're able to move a needle in the patient and tell exactly where it is," Dr. Haake said. "We're working with real-time dynamic information, not static images."

"It allows us to see better, to understand where our needles were, to change things as needed and to reduce our anesthesia time," he said. "What the patient perceives is that he comes in, goes to sleep, wakes up three hours later and goes home."

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Partnership
Advances Pancreatic
Cancer Research

Subspecialists Bolster
Efforts to Implement
Treatment Pathways in
Hematologic Oncology

Comprehensive
Patient-Centered
Oncology Services

Knowledge
Sharing Benefits
Cancer Patients

To subscribe to this publication, visit CarolinusHealthCare.org/lci-physicians.



“WHILE THE NEW SOFTWARE WAS DESIGNED SPECIFICALLY FOR PROSTATE CANCER, BRACHYTHERAPY, FOR BREAST CANCER TREATED WITH LUMPECTOMY AND GYNECOLOGIC TUMORS, IS OFFERED AT VARIOUS CAROLINAS HEALTHCARE SYSTEM LOCATIONS.”

—Vicki Reich, Assistant Vice President, Radiation Oncology, Levine Cancer Institute



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LEADING-EDGE CAPABILITIES IN RADIATION ONCOLOGY

“While the new software was designed specifically for prostate cancer, brachytherapy, for breast cancer treated with lumpectomy and gynecologic tumors, is offered at various Carolinas HealthCare System locations,” said Vicki Reich, assistant vice president of Radiation Oncology at Levine Cancer Institute. This therapy is just one of the many state-of-the-art capabilities in radiation therapy available at the Institute.

Others include:

- Stereotactic radiosurgery
- Stereotactic body radiotherapy that targets tumors with high-dose radiation in a few sessions
- Motion management technology that automatically switches radiation beams on and off as patients breathe, sparing healthy tissue from radiation toxicity

“Our linear accelerator technology is what sets us apart and puts us at the forefront of advances in radiation oncology. Its clinical efficiency, accuracy and precision not only support better outcomes, but also add to patients’ level of satisfaction,” Reich said. “We put a high degree of importance on patient safety. That’s the goal when we look at obtaining new technologies and systems.”



Ultrasound imaging of prostate seed implant needle insertion.

Levine Cancer Institute is also working to acquire advanced patient safety systems that will automatically monitor each individual system contained in linear accelerators, with the ability to self-diagnose and troubleshoot problems overnight.

Standardization is also critical to safety, so Carolinas HealthCare System is standardizing software and hardware as a means to recognize and reduce errors across all locations.

“Radiation oncology is an exciting field because we’re always improving on what we have,” Reich said. “We’ve been able to deliver radiation into the human body for 100 years. The ability to shape modulate a beam to block the critical structures we want to spare, and use advanced imaging, has made radiation more effective over the years. There’s always a new and better way to do things.”

Partnership Advances Pancreatic Cancer Research

Levine Cancer Institute, part of Carolinas HealthCare System, and The University of North Carolina at Charlotte (UNC Charlotte) are collaborating to advance translational and clinical research in pancreatic cancer, one of the most deadly forms of cancer.

The Charlotte Pancreatic Cancer Project (CPCP) fosters working relationships between physicians and scientists at both institutions by funding innovative peer-reviewed research ideas.

IMPROVING PATIENT SURVIVAL AND ACCESS TO CARE

"Survival figures for pancreatic cancer are unacceptable," said Derek Raghavan, MD, PhD, president of Levine Cancer Institute. "There's a glaring need to conduct more research into prevention, earlier detection and treatment options, and together with UNC Charlotte, we're uniquely positioned to be a national model for accelerating research in this area. This partnership will spur scientific investigation and discovery and bring access to pancreatic cancer research closer to home for people across the Carolinas."

EXPERTS IN ACADEMIC AND CLINICAL RESEARCH

"Through clinical and basic science research, we're rapidly learning how to better detect and treat many diseases," said Robert Wilhelm, PhD, vice chancellor for research and economic development and executive director of the Charlotte Research Institute at UNC Charlotte. "By combining the efforts of a strong research university with a strong academic healthcare organization, we hope to drive advances in pancreatic cancer research and improve outcomes for people with this devastating disease."



Derek Raghavan, MD, PhD
President, Levine Cancer Institute

GET RESEARCH UPDATES

Carolinas Pancreatic Cancer Project will last two years and is intended to stimulate new work leading to the development of competitive applications for more national grant funding.

For more information, visit

CarolinasHealthCare.org/levine-cancer-institute
or call 980-442-2000.

CPCP is part of an ongoing relationship between the two institutions to advance the healthcare of the region and beyond. Since 2010, researchers at UNC Charlotte have worked with Carolinas HealthCare System researchers and clinicians to analyze pancreatic cancer tissue samples.

Recently, two jointly sponsored grants of \$100,000 each were awarded to teams of investigators at UNC Charlotte and Carolinas HealthCare System/Levine Cancer Institute. Led by Pinku Mukherjee, MD, and Susan Trammell, MD, respectively, the research is focused on gene targeting in pancreatic cancer and a new diagnostic tool to identify the boundaries of cancerous deposits during surgery.



"THIS PARTNERSHIP WILL SPUR SCIENTIFIC INVESTIGATION AND DISCOVERY AND BRING ACCESS TO PANCREATIC CANCER RESEARCH CLOSER TO HOME FOR PEOPLE ACROSS THE CAROLINAS."

—Derek Raghavan, MD, PhD, President, Levine Cancer Institute



Subspecialists Bolster Efforts to Implement Treatment Pathways in Hematologic Oncology

In the midst of preparations for an inpatient bone marrow transplantation unit at Carolinas Medical Center, Edward Copelan, MD, chairman of the department of Hematologic Oncology and Blood Disorders, is also overseeing a seismic shift in both the size and organization of his staff and the way these physicians interact with others throughout Carolinas HealthCare System.



Edward Copelan, MD
Chairman,
Hematologic
Oncology and Blood
Disorders

A major thrust to recruit additional subspecialists within hematology/oncology to Levine Cancer Institute will bolster efforts to establish and implement clinical pathways. This electronic “menu” of treatment strategies is used by Levine Cancer Institute physicians along with a listing of available clinical trials and directions to access them.

“It makes it easy for physicians in our healthcare system who may be two hours away from us to see how we would handle specific situations, so we approach treatment homogeneously. We are truly a cancer center without walls,” said Dr. Copelan, who specializes in leukemias, myelodysplastic syndrome, myeloproliferative neoplasms and transplantation. “Establishing our subspecialty areas to provide outstanding expertise in specific malignancies is for this dual purpose.”



Belinda Avalos, MD
Vice Chair,
Hematologic
Oncology and Blood
Disorders

TRANSPLANTATION UNIT TO OPEN

Along with Belinda Avalos, MD, department vice chair, Dr. Copelan is preparing for the 2014 opening of a 16-bed transplantation unit that will include an adjacent cell-processing lab and apheresis unit, where cells will be collected prior to transplant. Dr. Avalos, who specializes in leukemias and marrow transplantation, “oversees our basic research lab, where we are doing translational work

to help our clinical program perform cutting-edge studies and make us attractive to funding agencies so we can increase the number of clinical trials available to patients,” said Dr. Copelan.

An expansion of Levine Cancer Institute’s leukemia program, which is under development, will promote a multidisciplinary approach to caring for those patients, many of whom will be candidates for transplantation.

NEWLY ORGANIZED SUBSPECIALTY SECTIONS

With the hiring of several new hematology/oncology staff members, Dr. Copelan has organized the department into sections that provide cutting-edge subspecialty care in hematologic oncology. These sections include:

- **Leukemia:** Led by Jon Gerber, MD, who specializes in leukemias and myelodysplastic syndrome. This section is supported by Michael Grunwald, MD, a specialist in leukemias, myelodysplasia and myeloproliferative neoplasms.
- **Plasma cell disorders:** Led by Saad Usmani, MD, who specializes in plasma cell disorders, including multiple myeloma.
- **Transplantation:** The section is led by Drs. Copelan and Avalos.
- **Nonmalignant hematology:** Led by David Miller, MD, a specialist in nonmalignant hematology. This section is supported by Everett Ribakove, MD (nonmalignant hematology, lymphomas, multiple myeloma), Jonathan Levine, MD (nonmalignant hematology, myelodysplastic syndrome, lymphomas, multiple myeloma), and Charles “Hank” Packman, MD (nonmalignant hematology).
- **Lymphoma:** A new hire is in progress to lead this section, which is supported by Omotayo Fasan, MD, a director of therapeutic apheresis.

REFER YOUR PATIENTS

Physicians interested in referring patients to specialty clinics or clinical trials at Levine Cancer Institute’s Department of Hematologic Oncology and Blood Disorders can call the physician referral line at **980-442-4363**.

Main entrance to
CMC-Pineville



CONNECTING WITH THE COMMUNITY

Encourage your cancer patients to take advantage of the cancer-related programs available at Carolinas Medical Center-Pineville. For more information, visit CarolinasHealthCare.org/cmc-pineville.

Comprehensive Patient-Centered Oncology Services

CAROLINAS MEDICAL CENTER-PINEVILLE PROVIDES LEADING-EDGE CARE

Ongoing efforts to enhance the oncology program at Carolinas Medical Center-Pineville, part of Levine Cancer Institute and Carolinas HealthCare System, recently brought a new patient navigator, dietitian and social worker to the campus, along with additional wellness programs and services to enrich the experience of patients, their families and their caregivers.

The growth of the oncology program occurred in conjunction with the overall facility expansion completed last year that added approximately 100 beds and two more operating suites. "This is just one addition that complements the extensive offerings of medical and radiation services, as well as clinical trials," said Cheryl Atkinson, vice president of CMC-Pineville.

"Growing the services we provide has been a five-year evolution," said Atkinson. In the next year, thoracic cancer surgical services may be added to complement the hospital's cardiology services.

A GROWING TEAM OF MEDICAL PROFESSIONALS

Jennifer Brown, RN, is the new patient navigator at CMC-Pineville, adding to 35 more who are serving in that role throughout Carolinas HealthCare System. Like other patient navigators, Brown is tasked with coordinating patient treatment among many healthcare providers and ensuring access to financial, social,

psychological, transportation-related and other resources. Navigators provide assistance for patients, families and caregivers, helping them maneuver through the continuum of care. "My role is to make sure patients have access to the host of resources available to them," said Brown.

Healthcare providers also benefit from the assistance of patient navigators, according to Kris Blackley, RN, director of patient navigation at Levine Cancer Institute's Research and Administrative Headquarters. Navigators help with patient compliance and reducing the number of missed appointments. There are numerous logistical aspects that need to be addressed for patients to receive appropriate treatment. "Navigators are able to help improve the communication between providers located at various locations," Blackley said.

WELLNESS PROGRAMS, UP-TO-DATE INFORMATION

Rachel Burns, a registered dietitian, and Teri Layzell, a social worker, recently joined the hospital's healthcare team along with Brown. Burns offers patients one-on-one consultations to develop nutrition plans during treatment and beyond, and conducts grocery store tours and educational classes about nutrition. Layzell provides individual and group counseling, directs patients to disease-specific support groups and facilitates other supportive care, such as pastoral care. Both of these positions are integral to CMC-Pineville's push to expand on-site wellness programs. Tai chi classes are being offered in addition to nutrition classes.

Highly qualified members of Carolinas HealthCare System's medical staff speak at regularly scheduled community events, sharing the most recent information on various cancer topics and leading-edge treatment protocols.

"There's a need for reliable cancer information in the community, and we are finding effective ways to reach out to everyone who may require our services," Atkinson said.

Knowledge Sharing Benefits Cancer Patients

As medicine moves from more fragmented healthcare to collaborative patient management, the symbiotic relationship forged in 2012 between Levine Cancer Institute, part of Carolinas HealthCare System, and Roper St. Francis Healthcare is just one example of how the system is innovating to provide better healthcare for patients.

The enterprise-wide network of multidisciplinary cancer physicians ensures that quality cancer care is delivered at all Institute locations across the Carolinas. "This partnership really expands the scope of services and expertise," said Steven Akman, MD, medical director of Roper St. Francis Cancer Care in Charleston. From his perspective, he sees several benefits. "For one, clinical connections. There are complex care plans that have to be initiated for more uncommon types of cancer that require a lot of experience and volume. One hospital couldn't provide that, but system-wide we can."



Steven Akman, MD
Medical Director,
Roper St. Francis
Cancer Care

EXPERTS SHARING KNOWLEDGE

For example, he says, muscle-invasive bladder cancer requires complex surgical removal of the bladder and creation of a neobladder. "Our urologists are highly trained and more than capable of handling this, but this cancer is just not common enough. However, there are two

urologists in Charlotte – that's all they do. So when we have a case of this type of bladder cancer, it's co-managed by our urologists and a physician in Charlotte. Our patients like to know our surgeons consulted with colleagues who have special expertise in this area, and those specialists concur with our treatment or suggest an additional treatment. It gives them confidence."

Another benefit? Being able to participate in a large clinical trials program – with the potential for clinical trials to emanate from Roper St. Francis Healthcare itself. Levine Cancer Institute has also paired with Roper St. Francis Healthcare in areas such as palliative care, patient navigation and neuro-oncology. Working together on complex surgical procedures for upper GI and head and neck cancers may be in the future, as well.

For their part, Roper St. Francis Healthcare brings to the table its extensive knowledge in fields such as biobanking and translational research and molecular diagnostics.

"This is really about 'how can we help each other' clinically," said Dr. Akman. "Our goal is not to develop a one-way highway to Charlotte. Patients will be treated here, but have access to the System's expertise, either with the experts coming to us or virtually. Patients here in Charleston will benefit from this partnership."



Roper St. Francis Healthcare physicians' collaboration with Levine Cancer Institute offers patients cutting-edge cancer care close to home.

COLLABORATION IS KEY

For more information, visit the Roper St. Francis Healthcare website at roperstfrancis.com or visit the Levine Cancer Institute website at CarolinasHealthCare.org/levine-cancer-institute.

Recent News

Levine Cancer Institute Ranked as a Top 100 Integrated Health System

Carolinas HealthCare System was among the nation's top 100 Integrated Health Systems to Know, according to *Becker's Hospital Review*. This bi-monthly publication reports on hospital and healthcare system news, and the top 100 Integrated Health Systems to Know list is based on health systems' range and coordination of healthcare services offered.

The list of hospitals and healthcare systems focuses on the continuum of care, from wellness and preventive services to urgent care, inpatient care, outpatient care, hospice, health plan offerings and more. Many have demonstrated innovation through their participation in care and payment reform initiatives, such as ACOs (accountable care organizations). The top 100 were selected based on rankings by healthcare analytics company IMS Health. Financial, clinical and operational strengths were also considered. Carolinas HealthCare System's Levine Cancer Institute at Carolinas Medical Center was one of only two healthcare systems chosen in North Carolina.

Updates in Cancer for Clinicians

Levine Cancer Institute's *Updates in Cancer for Clinicians* was mailed to approximately 15,000 oncologists, nationally, in January and March of this year. The publication, written by Levine Cancer Institute physicians, features clinical updates in cancer care as well as other important news and information.

Updates in Cancer for Clinicians encourages physicians nation-wide to collaborate in clinical care by joining our clinical trials and participating in CME activities.

The next issue, mailing in November, will highlight the following: quality of life improvements in sarcoma

therapy, myeloma management, updates in HPV-related head and neck cancers, upper-GI malignancies and stereotactic radiation approaches for primary and oligometastatic malignancies. If you would like to receive a copy, email us at levinecancerinstitute@carolinashealthcare.org.

Oncology Grand Rounds

The Oncology Grand Rounds program, hosted by Levine Cancer Institute, takes place the third Tuesday of each month. Physicians, medical students and clinical staff across the Carolinas have the opportunity to hear from world-renowned physicians on various oncology topics. Join us for the following presentations:

November 19, 2013

John H. Suh, MD

Chairman, Department of Radiation Oncology, Professor of Medicine, Rose Ella Burkhardt Brain Tumor and Neuro-oncology Center, Taussig Cancer Institute, Cleveland Clinic

December 17, 2013

"Early-Phase Radiation Studies"

Steve M. Hahn, MD, Penn Radiation Oncology

*Chair, Department of Radiation Oncology
Director, Photodynamic Therapy Program
Co-Program Leader, Radiation Biology*

The Oncology Grand Rounds program supports Levine Cancer Institute's commitment to continuing medical education and offers opportunities to learn about industry trends and changes, key challenges related to specific tumor sites, innovative research and more.

AMA PRA Category 1 Credit(s)[™] and CEUs are offered. For more information, call 980-442-3074.

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CarolinashHealthCare.org/lci-physicians

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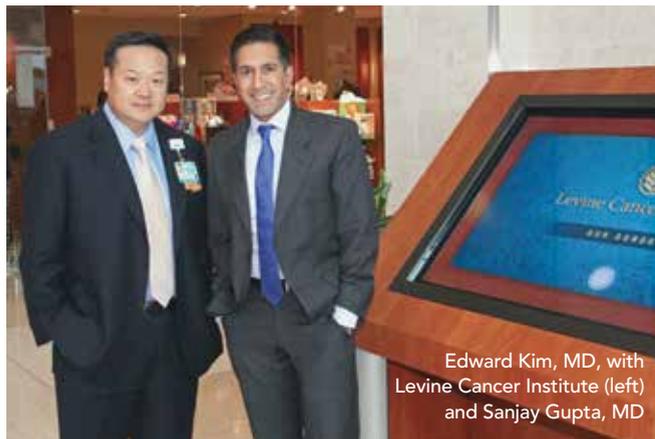
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Sanjay Gupta, MD, Visits Levine Cancer Institute

CNN medical correspondent Sanjay Gupta, MD, visited Levine Cancer Institute in early 2013 for a tour while in Charlotte for a speaking engagement at Queens University. He learned about the Institute's unique concept of bringing the latest treatments and clinical trials close to where patients live.



Edward Kim, MD, with
Levine Cancer Institute (left)
and Sanjay Gupta, MD

Sixth Annual Venous Thromboembolism & Anticoagulation Therapy Conference

Physicians, physician assistants, nurse practitioners, registered nurses, pharmacists and residents are invited to attend the Sixth Annual Venous Thromboembolism (VTE) & Anticoagulation Therapy Conference. The conference will provide an overview of the latest information, including how to:



- Apply national guidelines to the management of antithrombotic therapy for VTE prophylaxis, VTE treatment and stroke prevention
- Evaluate anticoagulation therapy around invasive procedures
- Assess patient risks and benefits of prescribing anticoagulation therapy
- Review VTE in pediatric and elderly populations
- Evaluate the diagnosis and treatment of heparin-induced thrombosis and thrombocytopenia
- Review the challenges of managing patients with antiphospholipid antibody syndrome

CREDITS:

- 5.25 AMA PRA Category 1 Credit(s)TM
- 5.25 Continuing Nursing Education Contact Hours
- 5.25 ACPE Credit Hours
- .525 CEU

Register through the Charlotte AHEC website at charlotteahec.org.

- **When:** Saturday, November 9, 7:45 a.m. to 3:30 p.m. (Registration begins at 7 a.m.)
- **Where:** Renaissance Charlotte SouthPark Hotel, 5501 Carnegie Blvd., Charlotte, NC 28209
- **Call:** Tamara Tillman at 704-512-6534 or email Tamara.Tillman@CarolinashHealthCare.org for more information