HealthFest 2011

CAMC Imaging Services: More than just a pretty picture

At CAMC, pictures are worth more than 1,000 words—they save lives.

July 12, 2011

Inside this issue

They may not be on “CSI”, but laboratory technologists are like investigators. 

A local couple has participated together in the Dr. Dean Ornish Program at CAMC, gaining healthier lifestyles.

CAMC has two programs that give high school students a look into the future of health care careers.

Please join us for the Teddy Bear Fair 2011 Saturday, July 16, 9 a.m. to 1 p.m. at CAMC Women and Children’s Hospital

A local couple has participated together in the Dr. Dean Ornish Program at CAMC, gaining healthier lifestyles.

At CAMC, pictures are worth more than 1,000 words—they save lives.

Continued on Page 3

CAMC Imaging Services: More than just a pretty picture

At CAMC, pictures are worth more than 1,000 words—they save lives.
Behind the scenes: laboratory technologist

“We are like investigators”

This article is about some of the people and departments that patients and visitors might not see when they come to the hospital, but they have a very important role in patient care. CAMC has several clinical laboratories, all serving a unique purpose in the patient care process. Employees from three of CAMC’s clinical laboratories—automated procedures, microbiology and histology—share about what they do “behind the scenes.”

They may not be the army lighting or filming a crime scene, but as laboratory technologists, they have the expertise in their field to know if the villains they’re getting are correct.

Conrie Calabrese is a medical technologist in CAMC’s microbiology lab who has worked here for 43 years. “In microbiology, we read plates that have been plated from samples of any source where you might find an infection. Bacteria are like people—they have to be fed. We plate them on the right medium, feed them the right food so they can grow and incubate at the appropriate temperatures,” she said.

Most bacteria require overnight growth, she said, but some grow much faster. The technologists identify the organisms that are affecting each patient, then do susceptibility testing to inform the physician about which antibiotic will or will not work for that patient.

“We do MRSA and VRE testing, all the new things that are now causing trouble. They are really resistant organisms that take extra work. If you get the result in the morning, you can probably get a diagnosis early in the day,” Calabrese said. “If the patient is known to have a certain problem, then we can get the information out promptly.”

Calabrese said that there’s not a day where she doesn’t learn something new. “It’s the most interesting field there is. It’s always changing—the bugs don’t read the books.”

CAMC’s microbiology lab is always working to keep up with the latest technology, and continues to perform tests that many other labs don’t. “There are very few labs left who do the whole gamut of microbiology like we do,” Calabrese said. “We’re one of the few hospitals still doing mycology, which is the study of molds and yeasts. They are becoming more and more important and we’re getting a lot of clinical speciments. It’s very labor intensive, but we’ve been able to keep it and stay on top of the field with it.”

CAMC’s automated procedures lab (commonly referred to as APS) hosts several different varieties of testing. “In the APS, we have chemistry, hematology, urinalysis and other sections. It’s one big lab made up of six or seven different labs. Some of our techs can move around, so we are pretty well-rounded,” said Carol Bridges, clinical laboratory scientist level 4.

Bridges works in the coagulation area of the lab. “My job is to analyze specimens—blood and other body fluids. If you’ve heard of a patient being on Coumadin, this is where we draw the testing for them to adjust their Coumadin up or down.” The lab is very busy, she said, and that in a typical day she analyzes 500 to 400 specimens in an eight-hour shift.

Though they don’t have direct patient interaction, a laboratory technologist’s role is very important in the care of patients. “We play a major role in the diagnosis for the patient. If we don’t do a test correctly or efficiently, it affects the doctor’s diagnosis,” Bridges said.

Bridges has been on CAMC’s staff for 35 years and said that her career is very fulfilling. “Working in the lab is like being an investigator. You look into the microscope, you turn the knob and there are cells jumping out at you. Then you do the other tests that go along with that, and you try to narrow it down like a puzzle to help the doctor make his or her diagnosis.”

CAMC’s virology lab is another very busy area, especially around flu season. They test for a variety of other illnesses. CAMC’s virology lab is one of 93 World Health Organization Influenza Surveillance Laboratories. This allows the lab to be ready for the next pandemic and have the latest antivirals available for identification of new strains.

“That’s some of the testing that we do in virology includes influenza A and B, parainfluenzas, adenovirus and RSV. We also do testing for different viruses—HIV and hepatitis C by both immunological and molecular methods. We test for rheumatic factors for diagnosis of rheumatic diseases, identifying immune to viruses, cardiac disease risk factors such as cholesterol and high sensitivity C-rib as well as diagnosis of myelomas and other cancers by electrophoresis. Many new tests are performed first in virology and then moved to automated areas of the lab as techniques are developed. Specimen referral, formerly called ‘mail-out,’ is also located in virology. The job of these techs is to find the best place to do the specialized testing that we do not do here and get the specimen there correctly,” said Becky Bridges, in CAMC’s virology lab.

“During the flu season, we are very much depended on,” Ashley said. “We need to turn around that testing quickly because sometimes the patients need to be admitted.”

The virology area brought in vitamin D testing last year and has been a frequently-discussed topic in health news recently. “When we first started vitamin D testing, we were doing about 300 tests a month. We’re now doing 1,500 to 1,700 a month. It has increased enormously,” Ashley said.

The virology lab also does allergy testing for about 90 different allergens.

“I like the field of virology because it changes so much. There are always so many new things on the horizon,” Ashley said.

CAMC’s virology lab is also very busy area, especially around flu season. They test for a variety of other illnesses. CAMC’s virology lab is one of 93 World Health Organization Influenza Surveillance Laboratories. This allows the lab to be ready for the next pandemic and have the latest antivirals available for identification of new strains.

CMC laboratories

• Automated procedures
• Cytology
• Histology
• Microbiology
• Pathology
• Virology

Volunteers bring comfort, companionship to patients

Many older adult hospital patients are in need of companionship during their stay. They may not have family members or friends who are able to visit them, which can make for a lonely time in the hospital.

The CMC Foundation Institute and CMC Volunteer Services are conducting a pilot program called Volunteers Informing Patients (VIP). The program pairs a trained CMC volunteer with an inpatient 65 or older on the 7 South inpatient unit at CMC General Hospital. It is funded in part by the Claude Worthington Benedum Foundation.

“The volunteers do everything they can to make the patient’s visit more positive. They keep them occupied, talk with them and help them with things like selecting their meal type,” said Linda Harman, geriatric project coordinator.

Each volunteer has a cart that they take into the patient’s room when they visit that includes personal care items and entertainment items such as crossword puzzles.

The VIP program started in March, and so far volunteers have seen 125 patients with 500 total encounters.

“We’re seeing that close to 70 percent of the encounters are with patients who don’t have a friend or family member visiting at that time,” Harman said.

“The patient response has been very positive. They’ve been surprised to see someone who is interested and pleased we are making an effort to visit them. We are hoping to grow the program to include other nursing units,” he added.

The VIP program is part of a larger focus on geriatrics at CAMC. The CMC Foundation Institute and WVU Charleson Division have been working together for several years on programs relating to geriatric patient care, research and educational advancements that train physicians, nurses and pharmacists for a growing older adult population.

Ten volunteers currently participate in the VIP program, and more are needed. For more information, contact Kristy Fidler at (304) 388-6772 or Kristy.Fidler@camc.org.
Local couple reversing heart disease together

At about 175 employees of WVU's Charleston Division Health Sciences Center and CAMC offer two Ornish programs. The first program on their own and were then enrolled in the program because of the food they would be required to eat on the reversal program.

"In the most part, they eat what we eat, and they really like the food," Charlie said.

"We've had done well since starting their year-long program. In the first 15 weeks, Kelli lost 20 pounds and the men reduced 30 pounds, and in the last 15 weeks, Charlie about 23 pounds and three inches.

"The greatest thing for me is that my blood pressure and cholesterol are down," Charlie said. "My cholesterol has always run about 249 on medication, and it's down to 135, which is better," Kelli added.

"He also used to have to take acid reflux medicine daily, but hasn't had to for 16 weeks."

"When asked if they would recommend the Dr. Ornish program to others, "Absolutely," Kelli said. "100 percent," added Charlie.

"The most recent Imagine U webcast was an orthopedic surgery event. One of our emergency room surgeons includes an open heart bypass, a cancer surgery, and a spine surgery performed using the da Vinci surgical robot."

"As part of the program, students receive a curriculum book as well as a DVD showcasing in-depth interviews with surgeons. The videos are also available online at camcinstitute.org/imagineu."

"Instead of the traditional "job shadowing," students can explore career opportunities. Medical Explorers is a part of a work-based program sponsored by the WV Scout's of America that provides high school students in Kanawha, Putnam and Boone counties the opportunity to visit local businesses and explore career opportunities.

"We must once a month during the school year, and this year we've had 18 medical, physical, nursing, or allied health career shadowing sessions. We've had someone from large medical centers. The WVU HealthNet's operational capabilities by expanding our pre-hospital services. "They found out that some of the students have never suffered from heart disease due to bad eating habits.

"The most recent Imagine U webcast was an orthopedic surgery event. One of our emergency room surgeons includes an open heart bypass, a cancer surgery, and a spine surgery performed using the da Vinci surgical robot."

"As part of the program, students receive a curriculum book as well as a DVD showcasing in-depth interviews with surgeons. The videos are also available online at camcinstitute.org/imagineu."

"Instead of the traditional "job shadowing," students can explore career opportunities. Medical Explorers is a part of a work-based program sponsored by the WV Scout's of America that provides high school students in Kanawha, Putnam and Boone counties the opportunity to visit local businesses and explore career opportunities.

"We must once a month during the school year, and this year we've had 18 medical, physical, nursing, or allied health career shadowing sessions. We've had someone from large medical centers. The WVU HealthNet's operational capabilities by expanding our pre-hospital services.


**New scanner helps detect, diagnose heart disease earlier**

It "does save lives," said Ramaleladen Jyot, MD, medical director of cardiology CT. "Using computer-assisted technology and techniques, we can get an image of the heart within three to six seconds, which is very effective in ruling out coronary disease."

Prior to CCTA, to directly look at the blood vessels of the heart, one would have to undergo an invasive (inside the body) procedure called cardiac catheterization. CCTA is a non-invasive (outside the body) way to evaluate the blood vessels of the heart to find blockages that may need to be done instead of, or in addition to, a stress CT scan.

"Our new CT system is a powerful tool in the fight against heart disease," said Lisa Hoffman, chief radiology officer. "CCTA technology will help provide patients with quicker scan times in a more comfortably and less invasive manner.

Cardiac catheterization uses thin plastic catheters that pass from an artery in the leg up to the heart and into the coronary arteries. This allows for precise pressure measurements of the arteries - but also is a small, real, or small risk of injury during the procedure.

CCTA uses imaging contrast injected through a catheter to take blood vessels from outside the body. The images are then reconstructed with computer software, which gives us the visual information we need to see the different areas of the heart.

"Stereotactic breast biopsy allows us to see inside the breast that can only be seen with mammography. The patient can get a diagnosis of a breast lesion without having surgery," said Missy Bohan, nurse manager.

CAMC Breast Center. "It's an outpatient procedure that takes only about 30 minutes to complete. It's an option for a surgical biopsy and doesn't leave a scar."

While the Breast Center has been doing stereotactic breast biopsies for years, their upgraded equipment has the latest technology with sharper imaging and a table designed with the patient's comfort in mind.

For more information, call (304) 588-2872 or visit camc.org/breastcenter.

**New physician order entry process can increase patient safety**

A new process at CAMC will have patients, in certain circumstances, order tests electronically, with potential to make even more advancements in patient safety, quality and efficiency.

Computerized physician order entry (CPOE) involves physicians entering their orders directly into a computer, which is the clinical documentation system that CAMC uses. Previously, physician orders were written into a patient’s paper chart and entered for processing as soon as a name or health unit coordinator had time to check charts and enter orders into the computer. Medication orders were scanned to the pharmacy from the nursing station or the pharmacy.

Using CPOE, physicians will be able to enter an order from within the hospital or remote, which will go directly to the designated department (pharmacist, technologist, etc.) that it can start being processed immediately.

"One of the key benefits for physicians will be the delivery of orders for medications directly to the pharmacy, which will result in more rapid turnaround of medications back to the patient. Physicians will also be alerted at the time of ordering of potential drug interactions. Currently, these are seen in the pharmacy and result in a call to the authorizing physician, sometimes introducing additional delays," said Johnsey Leef III, MD, chief medical officer.

CAMC is one of the first hospitals in West Virginia to institute CPOE, which provides physicians with electronic access to patient charts, order entry, documentation, and the ability to review and modify orders at any time.

New physician order entry processes must be designed for the electronic environment and physicians must be trained to ensure a smooth transition.

"The key to implementation is education and communication with physicians, nurses, and other ancillary staff," said Cindy White, director of medical imaging, who oversees the move to CPOE.

"Computerized physician order entry is a powerful tool that provides increased accuracy in medication orders and reduces the risk of error, which can result in a call to the ordering physician, of possible drug interactions. Currently, these are seen in the pharmacy and result in a call to the authorizing physician, sometimes introducing additional delays," said Johnsey Leef III, MD, chief medical officer.

The process allows the machine to acquire an image that is so low dose that without this process it would be too grainy to interpret.

"I am thrilled that we have this technology now," said Jane Hevel, MD, radiologist. "When we scan our radiation dose to patients 20 to 50 percent lower than our current procedures performed. These are huge reductions!"

"Medical imaging is becoming an increasingly important clinical tool because it gives us the visual information we need to determine if a patient needs the correct procedure precisely, effectively and efficiently. Limiting exposure to radiation during CT and X-ray imaging studies is a top priority," said Vaurna Layton, director of medical imaging services for CAMC Imaging Center Kanawha City. "The new technology is the effort in the national technology in the effort to improve health care safety, quality and efficiency.

"We realize that CPOE is both a significant change for our physicians and CAMC. Year of work by information services administrative staff and many other clinicians will make CPOE a reality starting at August, with the hospitalists at General Hospital and later, and finally in late November and December, with the hospitalists at Kanawha City."

"One of the key benefits for physicians will be the delivery of orders for medications directly to the pharmacy, which will result in more rapid turnaround of medications back to the patient. Physicians will also be alerted at the time of ordering of potential drug interactions. Currently, these are seen in the pharmacy and result in a call to the authorizing physician, sometimes introducing additional delays," said Johnsey Leef III, MD, chief medical officer.

"Computerized physician order entry is a powerful tool that provides increased accuracy in medication orders and reduces the risk of error, which can result in a call to the ordering physician, of possible drug interactions. Currently, these are seen in the pharmacy and result in a call to the authorizing physician, sometimes introducing additional delays," said Johnsey Leef III, MD, chief medical officer.

"Computerized physician order entry is a powerful tool that provides increased accuracy in medication orders and reduces the risk of error, which can result in a call to the ordering physician, of possible drug interactions. Currently, these are seen in the pharmacy and result in a call to the authorizing physician, sometimes introducing additional delays," said Johnsey Leef III, MD, chief medical officer.