Carestream's DRX family of products are all powered by the wireless DRX detector.

By Elaine Sanchez Wilson

A GROWING FAMILY THAT REALLY DELIVERS

Customers discuss the benefits of the DRX family of solutions – in the ER, OR and beyond.

Marjorie Calvetti, MSW, RT, director of medical imaging services at Memorial Medical Center in Springfield, Ill., recalls a particular incident when a patient on the operating table suddenly experienced a decline in condition.

With the use of a wireless DRX detector from Carestream Health, the technologist captured an image in just a few seconds. The surgeon diagnosed the problem and took immediate steps to correct it. As a result, the patient had a positive outcome. "The surgeon spoke to me later and told me the patient was alive because we had DRX technology in the room," Calvetti said.

It is stories like this that keep Memorial Medical Center going back to Carestream to fulfill its imaging needs. A Carestream customer for over a decade, Memorial now uses 15 DRX detectors to retrofit its existing mobile imaging systems and x-ray rooms along with powering three CARESTREAM DRX-Evolution DR suites. This conversion enabled the hospital to bring wireless capabilities to its emergency and trauma rooms, as well as mobile imaging systems that serve the operating suite, ICU and inpatients. The organization also has Carestream's PACS and CR systems.

"The detectors can be used across all DRX systems. In our emergency area, for example, we are able to move detectors between our x-ray rooms and trauma bays to deliver immediate imaging studies wherever they are needed. We also have a dual-detector DRX-Evolution in the ER and we retrofitted our mobile system for the ER with a DRX detector. We converted our entire emergency room to DR with the DRX family, which improves turnaround time and the standard of care for our patients."

Carestream insiders dub this groundbreaking mobility to move DRX detectors among its room and mobile DRX systems as "the X-factor."

The flexible DRX family of wireless DR systems has been widely accepted because of its image quality, productivity and flexibility—as well as its affordable price.

Larry Kirschner, MS, BSRT, RT(R), FAHRA, director of radiology at Heartland Regional Medical Center of St. Louis, conducted a thorough search of DR vendors.

"We spent a lot of time looking at vendors as part of a full evaluation of the marketplace," he said. "Carestream's wireless, cassette-sized detector offered the image quality, flexibility and mobility we really wanted. Our conversion to DRX systems has significantly improved health care for our patients."

Heartland implemented six Carestream DRX-1 Systems, five Carestream DRX-Mobile Retrofit kits, and two DRX-Evolution systems. Detectors are utilized in existing mobile X-ray systems that service the hospital's ER and OR suites, as well as the general radiology department and a new fluoroscopy room.

Similarly, Robin Wible, CNMT, director of imaging at Memorial Hospital in York, Pa., noticed the company's wireless detectors at a tradeshow and was intrigued. When her hospital's purchasing department gave her the green light to fast track the purchase of DR equipment "our first phone call was to Carestream," said Wible. "We were very impressed by the uniqueness and flexibility of the DRX product." Memorial equipped one x-ray room with a dual detector DRX-Evolution and has implemented DRX detectors in an existing analog room and a mobile unit. The detectors' interoperability for use across multiple imaging systems is a feature that Memorial Hospital greatly values, according to Wible.

Ease of Use

Jeff Callender, RT(R), chief technologist at York, Pa.-based Memorial Hospital, noted that in the case of portable units, many DR detectors include tethers, which are precarious to use in areas with sterile fields. Feeding a detector underneath a table can be difficult in the critical care unit, where patients have IVs and wires. Furthermore, other detectors measure in at 2.5 inches thick, compared to Carestream's thin, cassette-size product.

Because Carestream's equipment uses wireless technology, technologists do not need to worry about bothersome cords interrupting the sterile field for trauma cases or surgical patients. It also streamlines the patient positioning process. "We have tremendous flexibility for positioning because we don't have a cord that can get in the way," Kirschner said.

He added the DRX detectors have facilitated faster access to images. "Our technologists no longer have a stack of CR cassettes for processing," he said, explaining that his hospital generally has 15 early morning portables. In the past, users would use eight cassettes to complete those rounds, travel downstairs and process the CR cassettes, and then return back upstairs to finish the remaining cases. "Now if they're up doing portables, they use the DRX detector for every exam and images are immediately available for viewing on the console or from the PACS." Kirschner estimates that productivity has increased by 50 percent.

According to Callender, physicians appreciate that preview images take only about 3 seconds to process after exposure, with a final image ready in less than 10 seconds. Kirschner agreed, saying surgeons in the OR have commented that they have reduced their exam time for replacement knee or hip procedures by 30 to 45 minutes a case. "It improves care by reducing the amount of anesthesia each patient receives, and it also boosts productivity. The OR can now schedule more cases. Surgeons have more time to visit patients in the hospital and at their offices. It's benefited everyone involved, including the patient."

Customers said they were thrilled that implementing the DR technology contributed to a reduction in the radiation exposure. Kirschner said his department has been able to reduce radiation exposure to patients by 50 percent compared to CR. Wible said her hospital has reduced dose by 30 percent, while attaining higher quality images at the same time.

Memorial Medical of Springfield also achieved gains in image quality while reducing exposures. "Capturing images with higher image quality and more detail gives radiologists more

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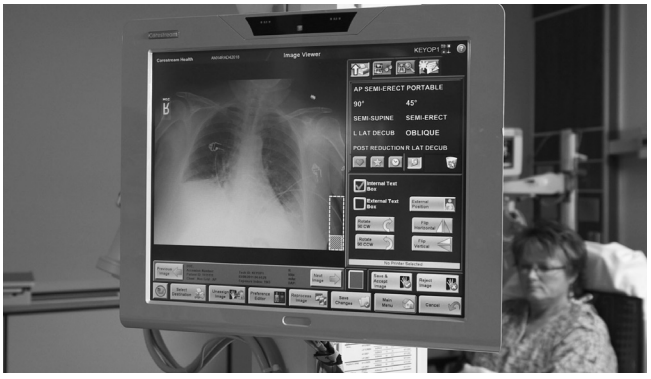
Heartland Regional Medical Center installed a fully-automated dual-detector CARESTREAM DRX-Evolution system in its 45-room ER. It greatly improves productivity in this high-volume, time-sensitive environment.



Heartland Regional Medical Center converted 5 existing mobile x-ray systems to DR with CARESTREAM DRX-Mobile Retrofit Kits. These mobile systems provide immediate image display on the monitor to enhance patient care in the ER, ICU and 10 operating suites.

Equipping existing mobile imaging systems with DRX detectors gives surgeons at Heartland immediate access to images, which can improve patient care by reducing surgery times.

information when they are diagnosing a patient's condition," Calvetti said. "This can enable radiologists to see smaller, more detailed anatomy and provide more accurate reporting. Patients also benefit from the reduction in dose. Radiation has become a significant issue over the years, and we want to give our patients the lowest dose possible."

Patient Satisfaction

Better patient treatment has translated into greater patient satisfaction.

For example, Wible shared that faster turnaround time led to a growth in both volume and efficiency. "Our radiology volumes have been increasing for the first time in the past couple of years," she said. "It used to be that we'd have patients backed up into the hallways waiting to get x-rays from the ER or from our inpatient/outpatient units. We had less volume, but we still had patients waiting to get imaged. Now we have increased volume, but no patient has to wait—and they have definitely noticed that. We owe this to our improved workflow."

Kirschner said the amount of time required for radiographic studies at his hospital has decreased by 50 percent. "It speeds up the care of our patients tremendously," he said. "The technologist also has more time to engage with patients, and this has resulted in improved patient satisfaction scores. Patient satisfaction is a big push in our organization."

Affordable Options

Patients and doctors weren't the only ones who expressed satisfaction over the Carestream detectors. Administrators were thrilled with the cost savings achieved through the company's affordable price point. Retrofitting to DR was an economical option for those on a budget.

"We had a regular fluoroscopy room that we were able to convert to digital imaging because the DRX-1 detector is designed to fit 14 by 17 inch slots used by film and CR cassettes," Wible said. "We didn't have to do any modifications to the room. We just needed to marry the Carestream product into the existing room."

Agreeing, Calvetti said, "With the DRX technology, you can retrofit any room or mobile imaging system. You don't have to replace equipment to get the benefits of DR technology. The fact that you can interchange the DRX detector with multiple rooms makes it so much more cost effective than having a fixed detector that only fits in one room."

Handle with Care

Although they were all impressed with the technology, the customers interviewed cautioned that the DR detectors should be handled with care.

Kirschner purchased an insurance policy on all DR plates, especially because his organization is a teaching hospital. "We

A wireless CARESTREAM DRX detector is now used for mobile exams to achieve exceptional image quality while streamlining patient positioning for seriously ill and injured patients at Memorial Hospital of York, Pa. This detector is shared between the mobile unit and a general radiology room.

have students here," he said. "If someone drops a DR plate, we don't want to end up with a damaged detector. Now if it gets damaged, we can easily replace it."

Wible confirmed this sentiment, saying, "Even though the detector is designed to withstand the rigors of daily use, it's wise to get the extended insurance with a service agreement. You don't want to have to buy a new detector if one gets damaged."

Another precautionary step is to educate users about how to treat the DRX detector. Calvetti notes that because the DRX detector looks like a regular CR cassette, employees might be inclined to treat it like one instead of the advanced piece of technology it is. "With a cassette, you can bump it or drop it and often it is not damaged," she said. "A DRX detector contains sophisticated micro-electronics, even though it looks like a cassette. So we told our team to treat it gently, like a piece of computer equipment."

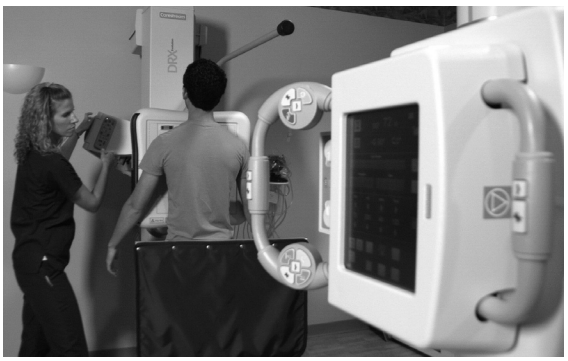
Seamless Data Exchange

All three hospitals reported that the DRX systems' wireless communications capabilities created a seamless exchange with their PACS systems.

In addition to its other advantages, Calvetti notes that "being able to register a DRX wireless cassette for use in multiple rooms is a huge breakthrough. It further expands the standards these detectors set for converting existing imaging systems to DR technology," she concluded.

Elaine Sanchez Wilson is a contributing writer for *Imaging Economics*.

Equipping an existing mobile system with a CARESTREAM DRX detector speeds access to high-quality images and enhances care for ER, OR and CCU patients, according to Robin Wible, CNMT, Memorial Hospital's Director of Imaging, and Chief Technologist Jeff Callender RT(R).



Memorial Hospital of York, Pa., installed a dual-detector CARESTREAM DRX-Evolution and a DRX-1 system in its radiology department to improve productivity and image quality. The streamlined workflow eliminates patient wait times despite higher imaging volumes.