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ecoline Helps Hospitals Improve Care, Competitiveness

CHI Health St. Elizabeth

Answers for life.

As the Affordable Care Act changes the way healthcare is delivered and reimbursed, a community hospital is growing and improving patient care, while remaining true to the core values that have made it a fixture of life in Lincoln, Nebraska, for 125 years and counting.

CHI Health St. Elizabeth is a 264-bed hospital serving Lincoln, Nebraska, and its surrounding communities in 14 counties. Founded 125 years ago, and Lincoln's first hospital, it is now part of the Englewood, Colorado-based Catholic Health Initiatives, one of the nation's largest health systems comprising 93 hospitals in 18 states.

Combining High-Touch with High-Tech Benefits the Entire Community

CHI Health St. Elizabeth and its staff take great pride in patient satisfaction and their high-touch reputation, a quality that's differentiable by their faith-based mission. These days, the hospital adds "high-tech" to its long list of admirable attributes, a new source of pride. One of its fastest growing high-tech specialties is interventional medicine, a much-needed treatment option for the more than 300,000 people in the hospital's service area who stand to benefit from less-invasive procedures.

Mike Hopkins, director of Imaging Services and 20-year staff member, has been instrumental in helping CHI Health St. Elizabeth grow its clinical and technological capabilities. He understands the significance of minimally invasive procedures in treating patients to help achieve improved outcomes with less risk to the patient, faster recovery, and, many times, less cost. And in today's financially burdened environment, cost is always a consideration.

"With regulation, the Affordable Care Act, payer polices—the focus is on outcomes now. We're going to get paid based on our outcomes, so we want to deliver the best treatment for the patient in the most inexpensive manner. But neither one of those are mutually exclusive, so you have to put them together."

Mike Hopkins, Director of Imaging Services, CHI Health St. Elizabeth

"Siemens is head and shoulders above any other vendor in regard to the user interface and the ease of using the unit, being able to do things quickly, ergonomically, and intuitively."

Mike Hopkins, Director of Imaging Services, CHI Health St. Elizabeth

CHI Health St. Elizabeth has two interventional labs. One is a general interventional lab containing the AXIOM Artis TA, a single-plane system from Siemens installed 12 years ago. Until recently, the other lab contained a biplane detector system with small detectors that were ideal for neuro imaging, but little else. When the hospital decided it was time to upgrade one of the rooms, the desire was to increase capabilities as much as possible, so it looked to replace the neuro system.

Budget, of course, was a factor in the purchase decision. Thanks to Siemens and Cassling, an authorized Siemens distributor, CHI Health St. Elizabeth got everything it wanted—new technology, new capabilities, new procedures to offer patients, and new workflows—all without paying the cost for new—because the hospital chose the refurbished Artis zee® biplane eco from Siemens.

"Siemens rose to the top for three reasons," said Hopkins. "One is that we have previous experience with Siemens. We have a room [with a system] that everyone loves. But what goes along with that is their reliability and the service and the relationship. But from the technology [perspective], Siemens won out as well. Siemens is head and shoulders above any other vendor in regard to the user interface and the ease of using the unit, being able to do things quickly, ergonomically, and intuitively. And then there's always the cost issue. And that's why we decided to go refurbished. We needed to find a cost-effective way to get everything we wanted."

CHI Health St. Elizabeth got everything it wanted—new technology, new capabilities, new procedures to offer patients, and new workflows—by purchasing the Artis zee biplane eco.

The system looks brand new and operates just like new. In fact, no one at CHI Health St. Elizabeth can tell it's refurbished. It rarely enters their mind. Unless cost comes to mind.

A Passion for Treating Cancer, Extending Life

CHI Health St. Elizabeth is seeing the most rapid growth in oncology, its number one initiative implemented to meet the needs of patients.

When Eric Vander Woude, MD, joined the hospital as an interventional radiologist five years ago, the interventional work was fairly basic, such as thyroid biopsies and lumbar punctures. But now, with the Artis zee and *syngo*® DynaCT, and new processes and staff in place, CHI Health St. Elizabeth has grown to become a regional, full-service interventional facility, and patients that used to have to travel to Omaha or Kansas City can now get their treatments in Lincoln, saving at least an hour of driving time.

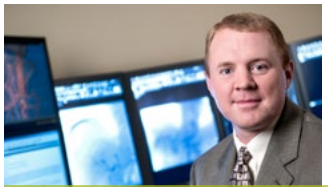
One of the procedures that Dr. Vander Woude was excited to add to the hospital's services as a result of this purchase is Selective Internal Radiation Therapy (SIRT) and, specifically, radioembolization (Y90). During the procedure, radioactive particles are delivered to a tumor through the bloodstream. The particles lodge in the tumor and emit radiation that kills cancer cells. Precision is critical to keep the particles from harming healthy organs.

"Having the capability to do a DynaCT, to be able to do a spin as we're injecting contrast into the artery that we want to treat, we can be 100 percent confident—not 99.9 percent—we are 100 percent certain that when we deliver our therapy we know that, yes, it's going right where we want it," said Dr. Vander Woude. "It is pretty much the gold standard."

This kind of exact precision protects healthy tissue. And it also opens the door to procedures that in the past would have been too risky for the patient or would have required major surgery, such as biopsy of tumors close to the spine.

"If we do a cryoablation of the kidney, treating a patient's kidney cancer, I make a knick in the skin four to five millimeters in size to get a cryoprobe through the skin and into the tumor. It's minimally invasive and very rarely does the patient need to stay in the hospital overnight. For the most part, everything is done as an outpatient [procedure], which automatically decreases the cost of delivering that care," said Dr. Vander Woude.

DynaCT is a technology pioneered by Siemens in which clinicians can acquire CT-like 3D volumes during catheter intervention procedures using a fixed C-arm that rotates around the patient. The images are then reconstructed to create a 3D image. Clinical benefits range from the visualization of ventricular systems, soft tissue (e.g., tumors), and bone structures in the interventional suite, allowing the evaluation of difficult anatomies, to the detection of bleedings and unintended blockages of other lumen, which might easily be missed in a 2D view.



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Eric Vander Woude, MD, Interventional Radiologist, CHI Health St. Elizabeth

Better and Faster

The team is also finding workflow benefits that increase efficiency and promote greater collaboration among the treatment teams.

Without question, the radiology team is exhilarated as it continues to use the Artis zee system to improve patient care and reduce dose. The biplane is more efficient with a bigger field of view, which decreases dose while providing better imaging. The team is also finding workflow benefits that increase efficiency and promote greater collaboration among the treatment teams.

Sarah Schultz, lead interventional radiology technologist, appreciates how much more can be accomplished during procedures by having control panels on the workstation in the procedure room. Now, when a doctor is doing a procedure on the patient, her team can be working behind the scenes in the control room, while the doctor continues working. In the past, filming was done after the case and then all postprocessing was completed, which lengthened the day, lengthened the physician's workflow, and delayed patients. Now filming can be completed during the procedure without interrupting the doctor's treatment. And diagnoses can be made faster with information available sooner.

There are many other workflow benefits:

- With DynaCT, patients no longer need to be transferred between rooms, helping to make procedures safer and more convenient for the patient and less time intensive for the treatment team.
- The large tableside monitor integrates the nursing biometric monitor, the ultrasound machine, and images from other studies, so physicians have all the information they need, configured to their individual preferences.
- The table is bigger to accommodate larger-sized patients and improve safety and comfort.
- Fluoroloop Storage allows for the review of dynamic fluoroscopic sequences, saving an additional acquisition and reducing dose.

"Without question, the radiology team is exhilarated as it continues to use the Artis zee system to improve patient care and reduce dose."

Sarah Schultz, Lead Interventional Radiology Technologist, CHI Health St. Elizabeth

The Truth about Refurbished

The system looks brand new and operates just like new. In fact, no one at CHI Health St. Elizabeth can tell it's refurbished. It rarely enters their mind. Unless cost comes to mind.

"Obviously, the big winner for us is how much it cost [because we chose a refurbished system] and the fact that we didn't give up anything to get everything we needed. I truly mean that. There's nothing that we didn't get that we wanted—at significant savings," said Hopkins.

He gives Siemens a great deal of credit.

"Siemens knew what our goals were, what the barriers were, what the struggles were, where we were financially in regard to how much we had for resources. And then Siemens went back and said, okay, how do we meet all of those needs. And we came down to the perfect solution," said Hopkins.

In the end, what convinces CHI Health St. Elizabeth that its investment was, indeed, the right choice is how technology improves patient care, and ultimately, the outcomes clinicians are able to achieve for their patients.

"Having [the DynaCT] technology available has already decreased the amount of time I'm having to spend actually doing a case in the room because I just have so much better technology," said Dr. Vander Woude. "For my specialty, I think we're going to see an increase in volumes. We're able to do [treatment] better. We're able to do it faster with less side effects or less invasiveness to the patient. That's what everybody wants. Everybody wants to have the best care they can, the lowest price that they can, and minimum downtime, and that's what we're able to deliver."

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Refurbished Systems

ecoline refurbished systems meet the strict quality guidelines that Siemens demands of its products and technology. All **eco**line systems are tested with the same specifications as new systems. For more than 10 years, Siemens has been helping hospitals and imaging facilities get the advanced technology they need at a lower cost.

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