

Surgical Advancements • Award-winning Care

microscope

Spring 2021

CHIhealth.com

**The
Surgery
Issue**
Lincoln Edition

**Sinus system
offers extreme
precision**

**Tiny technology
advances
breast cancer
tumor care**

WHAT'S INSIDE

SINUS CARE

2 Sinus Surgery Takes a Leap with Navigation Technology

Surgical instruments are synced with multidimensional pictures of the person's face, skull and sinus anatomy, giving surgeons a real-time view during surgery.

BREAST CANCER CARE

4 Tiny-Sized Technology Advances Breast Cancer Care

New technology is revolutionizing how breast tumors are marked for surgical removal. CHI Health St. Elizabeth is the only hospital in Lincoln to offer the Magseed® marker procedure.

TRAUMA CARE

6 St. Elizabeth Earns State Designation for Trauma Care

The designation from the Nebraska Statewide Trauma System of Care demonstrates a commitment to providing safe and timely trauma care.

BURN & WOUND CARE

8 Burn & Wound Experts Draw Global Attention

The Burn and Wound Center has been verified by the American College of Surgeons and the American Burn Association since 1996 and is internationally known for its research.

microscope is a journal published by CHI Health Marketing and Communications. Content from the journal may be found at CHIhealth.com/Microscope.

Marketing and Communications

Tina Ames
Division Vice President

Public Relations
Mary Williams
Division Director

Editorial Team
Sonja Carberry
Editor

Dan Ochoa
Graphic Designer

Taylor Barth Miller
Writer/Associate Editor

Jami Crawford
Writer/Associate Editor

Anissa Paitz
Writer/Associate Editor

Photography

Dan Ochoa

About CHI Health

CHI Health is a regional health network headquartered in Omaha, Nebraska. The combined organization consists of 14 hospitals, two stand-alone behavioral health facilities, more than 150 employed physician practice locations and more than 12,000 employees in Nebraska and southwest Iowa.

In fiscal year 2020, CHI Health invested more than \$188 million back into our communities. The majority of those dollars went to caring for the poor and underserved.

CHI Health is part of CommonSpirit Health, a nonprofit, Catholic health system dedicated to advancing health for all people. It was created in February 2019 through the alignment of Catholic Health Initiatives and Dignity Health. CommonSpirit Health is committed to creating healthier communities, delivering exceptional patient care, and ensuring every person has access to quality health care. With its national office in Chicago and a team of approximately 150,000 employees and 25,000 physicians and advanced practice clinicians, CommonSpirit Health operates 142 hospitals and more than 700 care sites across 21 states. In FY 2020, CommonSpirit Health had combined revenues of \$28.4 billion and provided \$4.2 billion in charity care, community benefit, and unreimbursed government programs. For more information, please visit CHIhealth.com.



Under the Microscope

Dear physicians,

Surgery is, first and foremost, about trust. The surgeon trusts that the operating room will be updated, with tools at their fingertips. The staff trusts the surgeon will be focused, the supplies will be stocked and the patients will be prepped. The patients trust that they will be the surgical team's priority, and that when they awake, their lives will be better.

Behind that interwoven trust is CHI Health St. Elizabeth. We are constantly investing to keep our operating rooms equipped with the best, most technologically advanced tools that will create an optimal surgical experience. That begins in pre-op and continues right through a patient's discharge. From block OR schedules to robotics, CHI Health St. Elizabeth strives to keep the ORs running smoothly. Our surgical staff is specially trained to bring expertise in focus areas like orthopedics and urology. We believe it all leads to a trusting environment for the surgeon, referring physician and the patient.

In this issue of Microscope magazine, you will read about advances in surgical services at St. Elizabeth, the training and upgrades that our trauma certification has brought to us and some of the new technology that offers patients better outcomes. All of these "new" advances are fueled by our mission to make the healing presence of God known in our world by improving the health of the communities we serve, and powered by the great people of CHI Health St. Elizabeth. We are your neighbors, families and friends and it is our privilege to work alongside of you and care for you.

Sincerely,

Derek Vance, FACHE
President

CHI Health St. Elizabeth & Nebraska Heart

Letter from Chief of Surgery

Dear physicians,

The Covid-19 pandemic has affected many businesses and disrupted the lives of countless families. The department of surgery was no exception. In the health care arena, no area suffered more than surgical services. Out of an abundance of precaution, elective surgeries were postponed to slow the spread of Covid-19 and protect our patients.

Sitting on the bookend of this difficult year, we can reflect on lessons learned and how we have been able to find ways to adapt and thrive in our "new normal." After a significant decrease in surgical cases at CHI Health St. Elizabeth, I am happy to say that we are back. Surgical case numbers have steadily increased, and we have done this in the safest way possible. Along with the number of cases, our quality measures are on the rise.

Our duty as surgeons and physicians is "primum non nocere." The operating room staff, nurses and surgeons have all stepped up and played a vital role in assuring that our patients are protected with the highest level of precaution, vaccination efforts for all medical personnel and rigorous pre-op screening processes to prevent the spread of Covid-19 in the perioperative period.

We have successfully cared for many critically ill Covid-19 patients who have required operative intervention, including aerosol-generating procedures like tracheostomy and bronchoscopy, all while preventing spread of Covid-19.

If you haven't operated at St. Elizabeth lately, I ask you to give us a chance. Our staff is well trained, personable and professional. We have nurses, techs and ancillary employees that want to be here. They believe in the mission of CHI Health St. Elizabeth. Their dedication to patient care helps our patients feel valued, safe and cared for.

I look forward to using the struggles of 2020 to push us all to be better. I know that together we can provide our patients with the best patient care in the region.



Aaron Robinson, MD
Chief of Surgery
CHI Health St. Elizabeth



Aaron Robinson, MD
Otolaryngologist
CHI Health



Tim Tesmer, MD
Otolaryngologist
CHI Health



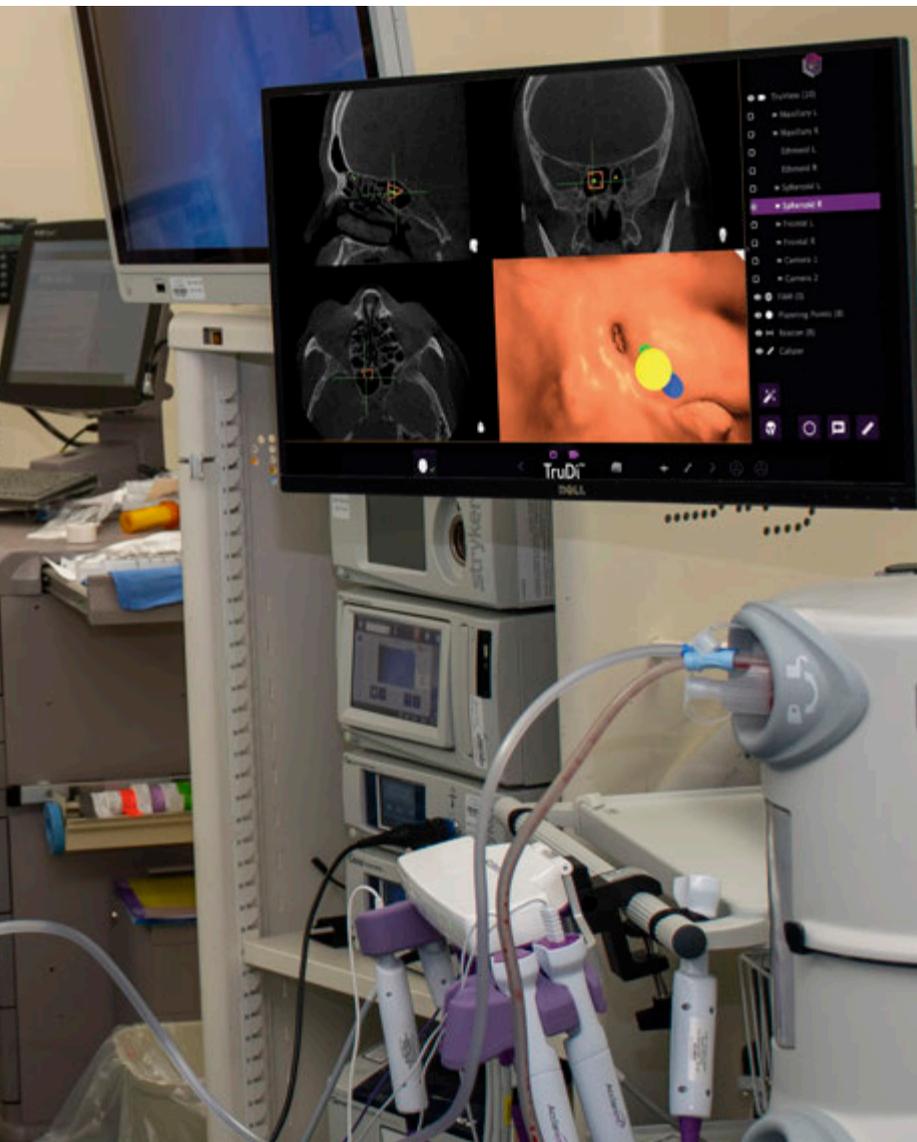
Dr. Tesmer performs sinus surgery using new navigation technology, giving surgeons real-time pictures of the person's face, skull and sinus anatomy.

Sinus Surgery Takes a Leap with Navigation Technology

“Like GPS for your head.” That’s how Aaron Robinson, MD, CHI Health Ear, Nose and Throat Specialist, describes the TruDi® Navigation System.

The leap in technology is significant. “It’s like going from an iPhone 1 to an iPhone 10. Now we can do everything we want to do,” Dr. Robinson said.

What the TruDi system does is produce a multidimensional picture of the person’s face, skull and sinus anatomy from preoperative CT scans. Its surgical instruments are then WIFI-synced with the images to provide a real-time view



TruDi® Features

- Planning points and beacons help identify drainage pathways, challenging anatomy and structural anomalies.
- TruView allows the user to place an unlimited number of virtual cameras in areas of interest and allows the user to see beyond the endoscope.
- Fast Anatomical Mapping (FAM) offers a real-time imaging tool that documents surgical changes to the anatomy.
- TruMerge™ allows automatic merging between the CT scan and an MR scan.
- TruPACS™ connect to the facility's PACS server and easily load scans directly from the network.

from the moment an instrument enters and navigates the nasal passages.

“We can see on the screen where we are with extreme precision. The multidimensional navigation system shows where we need to go to open up the sinuses,” said Tim Tesmer, MD, CHI Health Ear, Nose and Throat Specialist.

“We can see where all the small areas of inflow and outflow are, where pus might be built up. As we remove stuff from the sinuses, we can see how much we’ve done and how much more needs to be opened,” said Dr. Robinson.

The honeycomb-like structures of the sinuses have always presented challenges for surgery because the space is convoluted and tight.

“Everyone is different, so are the sinuses. There’s a lot of anatomic variability, especially for those with chronic sinus disease,” said Dr. Tesmer.

The area is also extremely close to delicate structures for smell and sight, the brain stem and the internal carotid artery, which is why this technology is a welcome advance. It also augments some of the less traumatic techniques, such as balloon sinuplasty, to open up sinuses with less bleeding, scarring and tissue injury.

“It improves the safety, precision and ultimately success in getting these people better. Because we can see more, it allows us to do as complete a surgery as we can,” said Dr. Tesmer. ✨

Tiny-Sized Technology Advances Breast Cancer Care



Rick Windle, MD
General Surgeon
CHI Health
St. Elizabeth



William Goodenkauf
Director of Oncology
CHI Health
St. Elizabeth



Mary Jane Glade
DNP, APRN-NP
High Risk Oncology
CHI Health
St. Elizabeth

New technology — smaller than a grain of rice — is revolutionizing how breast tumors are marked for surgical removal. CHI Health St. Elizabeth is the first and only hospital in Lincoln to offer the Magseed® marker procedure.

It's a leap ahead of how doctors have historically marked the location of the suspicious lesion during biopsy with a titanium clip. On the day of surgery, a radiologist places a wire into the breast to locate the clip, giving the surgeon a roadmap to follow during surgery.

This technique, wire localization, has been the standard of care in the United States for decades. For the patient, it can cause anxiety and discomfort. The patient must sit with the wire extended from the breast until surgery, which in some cases can be hours. For the surgeon, it can lead to a delayed surgery start time if there is difficulty placing the wire or the procedure takes longer than expected.

The introduction of the Magseed marker, a small radiation-free seed, changes all that. The Magseed marker is placed in the center of the patient's tumor up to 30 days prior to surgery. During the lumpectomy, the surgeon can precisely locate the marker using a magnetic probe. The probe produces a magnetic field that magnetizes the iron in the magnetic seed, giving the surgeon the distance and direction to the area of concern.

Rick Windle, MD, CHI Health St. Elizabeth General Surgeon, has used the Magseed markers nearly a dozen times. "Wire localization can lead to taking out more breast tissue than needed and, at times, it is difficult to find the area of concern," said Dr. Windle. "Magseed is less invasive and allows for more accuracy to the localization. In turn, we remove less healthy breast tissue, giving the patient a better cosmetic outcome."

William Goodenkauf, CHI Health St. Elizabeth Director of Oncology, agrees that



Laura Dilley, OR Nurse Manager at CHI Health St. Elizabeth, sets up Magseed for a procedure.

Magseed is less invasive and allows for more accuracy to the localization.



Magseed markers offer the patient and surgeon many advantages. "For patients undergoing lumpectomies for breast cancer, Magseed provides a way to accurately detect cancerous tissue and preserve more healthy tissue," said Goodenkauf.

"It is a win for both patients and surgeons. We are excited to offer this new technology to the community," said Goodenkauf. "It is truly advancing care."

Nurse Practitioner at CHI Health St. Elizabeth Cancer Care, Mary Jane Glade, DNP, APRN-NP, has witnessed the benefits of Magseed firsthand. "Many patients at St. Elizabeth experienced a shorter hospital stay and avoided the discomfort of the alternative procedures," said Glade. "Our team is always looking for and implementing innovative ways to help our patients navigate the world of breast care." 🌱

Specialties Tap into Surgical Advances



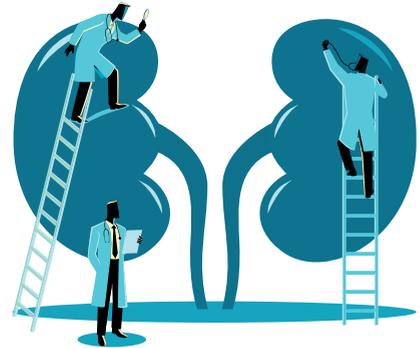
Andrew Lepinski, MD
Urologist
CHI Health
St. Elizabeth

Ureteroscope Takes More Ouch Out of Kidney Stones

The bad news is kidney stones can be extremely painful. The good news is ureteroscope technology has improved urologists' capabilities to deal with them.

"The ureteroscope allows telescoping up into the bladder to the kidneys to get to the stones, fragment them into smaller pieces or perform dusting, which is breaking them into tiny particles that just pass," said Andrew Lepinski, CHI Health Urologist.

There are rigid and flexible ureteroscopes. "The rigid ureteroscope is good for stones lower down near the bladder," Dr. Lepinski said. "With the flexible scope we have the ability to get higher up in the urinary tract to the kidney."



Stents are often used to open blockages and relieve pain. "They aren't a lot of fun to have in, and treatment can take four to five weeks and require two separate procedures," said Dr. Lepinski.

"With the ureteroscope, stents can be placed at same time as stones are broken up. The stents are then removed a week or so later in an office procedure. It's a better result for the patient."



Tara Baum, MD
Obstetrician/
Gynecologist
CHI Health

A Better Tool: TruClear™ Reduces Scarring, Improves Results

The best technology improves procedures for the patient and provider alike. That's the case with the TruClear Hysteroscopic Tissue Removal System.

"The TruClear is a fast and efficient way to remove endometrial polyps and fibroids," said Tara Baum, MD, CHI Health Gynecologist/Obstetrician. "The TruClear can even be used to remove retained products of conception after a miscarriage."

"For the patient – it's faster and there's less scarring," said Kathryn Klayum, DO, CHI Health Obstetrician/Gynecologist.

The technology uses a mechanical approach rather than thermal energy or energy discharge. This means less scarring and reduced risk of air or gas emboli.

"If you have a 30-year-old patient who still wants to have children, you can target that lesion and remove it with less scar tissue," said Dr. Klayum.

"For physicians, the visualization is so much better, and it's so much more efficient," Dr. Klayum said.



Diagnoses the TruClear would be used for include any kind of abnormal bleeding, post-menopausal bleeding, or a small septum in the uterus which can happen with multiple miscarriages.



Kathryn Klayum, DO
Obstetrician/
Gynecologist
CHI Health

Next Level Trauma Care: St. Elizabeth Earns State Designation



Rick Fermelia, MD
Trauma Center
Medical Director &
General Surgeon
CHI Health
St. Elizabeth



Jodi DeWitt, RN
Trauma Program
Coordinator
CHI Health
St. Elizabeth



CHI Health St. Elizabeth has earned general level trauma center designation from the Nebraska Statewide Trauma System of Care. In February 2020, the hospital opened a trauma center and has been actively caring for trauma patients, coordinating with local EMS systems and tracking data.

Jodi DeWitt, RN, Trauma Program Coordinator, has been meeting with first responders and paramedics to share CHI Health St. Elizabeth's ability to care for trauma patients, including those involved in serious car crashes, assaults, falls and more.

"St. Elizabeth is proud to receive this designation," said Trauma Center Medical Director and General Surgeon, Rick Fermelia, MD. "It demonstrates our commitment to providing safe and timely trauma care to patients. This designation is equivalent to a Level III center."

Since the certification process began, the hospital has seen an increase in patients presenting with traumatic injuries. One of the first patients treated was 18-year-old Kaleb Kempkes of Bennet, Nebraska.

Last May, Kempkes was trying to herd a bull into a pen on his grandparent's farm

when the animal suddenly began head-butting him in the chest. Kempkes was able to get away by sliding under a fence. Fearing Kempkes may have internal heart injuries, his mom rushed him to St. Elizabeth where Dr. Fermelia was part of his care team. Dr. Fermelia determined Kempkes broke his sternum, but escaped any other serious injuries.

Caring for patients like Kempkes, educating staff, increasing the trauma patient population and collecting data has been part of the year-long process of becoming a state-designated trauma center, which includes many specialty areas such as general surgery, anesthesia, orthopedic, neurosurgery and more.

St. Elizabeth becomes the second trauma center in Lincoln. "We are excited to offer the community another resource for specialized trauma care," said Dr. Fermelia. "Our trauma program offers comprehensive, quality care from injury through rehabilitation."

DeWitt adds, "Feedback from EMS has been very positive. With two hospitals in Lincoln providing trauma care, they are able to get back into service quicker after a call. That is a benefit to the city of Lincoln." 🌟

Emergency Care Highlights

- General level trauma center designation by the State of Nebraska.
- The region's only dedicated burn trauma unit and a nationally verified burn center.
- Pediatric Place, an 8-bed emergency care unit designed just for kids where staff specialize in pediatric and emergency medicine, plus inpatient and outpatient care.
- Highest level of recognition for stroke care - Get With The Guidelines® Stroke Gold Plus Award from the American Heart Association and American Stroke Association, which demonstrates readiness at any time to quickly treat stroke patients.

Trauma Facts



Nationally, every **four seconds** someone suffers trauma.

Someone in the U.S. dies

EVERY 3 MINUTES

from trauma



Trauma is the **leading cause of death for individuals ages 1 to 44** or almost half (47%) of deaths in this age range.



As a city's population grows, **so does the need** for additional trauma centers.



Trauma injuries kill more people each year than **heart disease, cancer and HIV** combined.

Award-Winning Care

Intensive Care Receives National Award for Excellent Patient Care

The Intensive Care Unit at CHI Health St. Elizabeth is the only adult ICU in Nebraska to receive a gold Beacon Award for Excellence from the American Association of Critical-Care Nurses (AACN).

The AACN recognized the ICU at CHI Health St. Elizabeth with the award, which demonstrates a team's commitment to providing safe, patient-centered and evidence-based care to patients and families.

Units that achieve this three-year, three-level award with gold designation meet national criteria consistent with Magnet® Recognition, the Malcolm Baldrige National Quality Award and the National Quality Healthcare Award.

"Receiving this elite recognition from the AACN inspires our team to keep providing the very highest level of care to each and every patient," said Jenny Stachura, MSN, RN, PCCN, Vice President of Patient Care at CHI Health St. Elizabeth.



Gold Status

CHI Health St. Elizabeth Receives 4th Magnet Designation

For the fourth time, CHI Health St. Elizabeth has received Magnet® designation – the highest nursing excellence award internationally. This recognition from the American Nurses Credentialing Center (ANCC)

places St. Elizabeth among an elite group representing only eight percent of hospitals in the country.

"This is a momentous honor not only for our nurses and hospital, but also for our patients and community," said Derek Vance, FACHE, President at CHI Health St. Elizabeth & Nebraska Heart. "Achieving Magnet designation means people can be confident they're receiving the highest level of care and that St. Elizabeth is constantly working to improve and excel!"

St. Elizabeth is the only Lincoln hospital to receive Magnet designation and the second hospital in Nebraska to receive the honor four consecutive times. That may be because of the strenuous and challenging criteria that comes along with the title, requiring hospitals to apply every four years.





David Voigt, MD
Co-Medical Director
CHI Health St. Elizabeth
Burn and Wound Center



Regional Burn & Wound Experts Draw Global Attention

Internationally known for its research, the Burn and Wound Center has been verified by the American College of Surgeons (ACS) and the American Burn Association (ABA) since 1996.

“We were the first nonacademic medical center to be verified,” said David Voigt, MD, CHI Health St. Elizabeth Burn and Wound Center Co-director. “We have people come from all over – Australia, Germany, Nigeria, China – to learn

how we do burns.”

What they find is an intensive team effort. “There’s not a single organ system that’s not affected by a large burn,” he said. “The whole team gets involved from day one.” Nutrition and rehabilitation experts are as essential as specialists like the only burn dentist in the world, because treating a tooth abscess can reduce complications like bacteremia.

The comprehensive Burn and Wound Center offers:

Adult and pediatric inpatient burn care

- The state's only verified burn center and the best burn care in the region with 16% of patients traveling from out of state for care.

Scar revision using the latest technology

- Our Advanced Burn Laser treatment, called SCAAR FX™, is considered the standard of care for treating soldiers injured in battle. It penetrates the layers of skin to a depth of 4 mm – much deeper than a cosmetic laser – breaking down rigid fibers and triggering production of collagen and elastic fibers. After one treatment, patients see significant progress in scar texture. Functional and cosmetic improvement occurs after three to five sessions.

Outpatient burn care

- We provide advanced outpatient care for patients who don't require hospitalization and for those who need follow-up care through recovery.

Hyperbaric oxygen therapy

- Patients receive pure oxygen in a pressurized, single-person chamber. This stimulates healing for many medical and surgical conditions and chronic wounds. Common conditions treated include:
 - Diabetic ulcer
 - Tissue damage due to radiation therapy
 - Radiation cystitis
 - Osteomyelitis
 - Failed skin drafts or flaps

Outpatient wound care

- When it comes to wound care, we have an impressive record of healing wounds that others thought incurable, including many that would have resulted in amputation. Last year, we helped over 600 new patients improve their quality of life with our care.



CHI Health St. Elizabeth Burn and Wound Center's Hyperbaric Oxygen Therapy Program has been named the top performing program in the country by SerenaGroup®.



Unique, Hands-On Training Prepares Periop Nurses System-Wide

Perioperative nurses at CHI Health benefit from specialty training in a Perioperative Residency program. The 26-week course combines evidence-based education in a classroom with in-person training from experienced staff and vendors. Over 20 topics are covered, such as sterile processing, safe instrument handling, specimen handling and patient safety.

The program, which has been underway for over three years, is made possible because CHI Health can bring these vendors and resources together for the entire system. All registered nurses new to perioperative nursing complete the program.

"Participants in the Perioperative Residency program learn so much more than new employees in this area used to," said Katherine Williams, EdD, MSN, RN, CNOR, CNE, RNFA, CHI Health Perioperative Services Clinical Practice Coordinator. "They have many opportunities for hands-on learning, and they are able to visit with experts on vital topics. It is a great program, and we are proud to offer it."

Another benefit is that surgical teams across CHI Health can be confident our perioperative nurses have received the same, first-class education and training.

"It is just one more way we strive to provide high-quality care and put patient's safety first," said Williams. "It is also an employee satisfier. Nurses are given more than the basics to help them protect both patients and staff."

Two other courses offered to new staff include the PeriAnesthesia Fellowship, for nurses new to preop, postop and PACU and Endoscopy Fellowship for new endoscopy nurses.

We Value Your Feedback!

Please share your thoughts about this issue of *microscope* and your ideas for future stories at CHIhealth.com/MicroIdeas

The McAuley Fogelstrom Center
12809 W. Dodge Road
Omaha, NE 68154

NONPROFIT ORG
US POSTAGE
PAID
OMAHA, NE
PERMIT NO. 361

CHI Health St. Elizabeth Surgery Issue

As the area's longest-serving hospital, CHI Health St. Elizabeth takes great pride in serving Lincoln and the surrounding communities. Expertise, innovation and quality outcomes are hallmarks of our surgical program. With the support of the physician community, we will continue to keep the community healthy for years to come.



CHI Health Hospital Locations

NEBRASKA

Grand Island

CHI Health St. Francis

Kearney

CHI Health Good Samaritan

Richard Young Behavioral Health

Lincoln

CHI Health St. Elizabeth

CHI Health Nebraska Heart

Nebraska City

CHI Health St. Mary's

Omaha

CHI Health Creighton University

Medical Center - Bergan Mercy

CHI Health Immanuel

CHI Health Lakeside

CHI Health Midlands

Lasting Hope Recovery Center

Plainview

CHI Health Plainview

Schuyler

CHI Health Schuyler

IOWA

Corning

CHI Health Mercy Corning

Council Bluffs

CHI Health Mercy Council Bluffs

Missouri Valley

CHI Health Missouri Valley