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## NCH Healthcare System adds germ-zapping robots to combat infection-causing pathogens

**Liz Freeman**, Naples Daily News      Published 6:00 a.m. ET Feb. 5, 2020

A germ-zapping robot isn't replacing hospital housekeeping; it steps in as a second layer of protection to make sure the job is done.

NCH Healthcare System debuted the robot system that destroys infection-causing pathogens which can be devastating to patients, along with driving up costs to hospitals for addressing hospital-acquired infections.

It is the first hospital in the region to use the robots, which cost more than \$100,000 a piece.

Through donors, NCH has purchased three LightStrike robots from Xenex Disinfection Services, a Texas company that says its robots can kill the scariest pathogens, such as Ebola and anthrax, and the more common germs like MRSA, norovirus, C. diff and the flu.



**A Xenex LightStrike Germ-Zapping robot uses pulsed xenon ultraviolet light to disinfect a room at NCH Downtown Baker Hospital in Naples on Tuesday, February 4, 2020. NCH now has three of the robots, which help to decrease infection rates by disinfecting rooms after the rooms are manually cleaned. (Photo: Alex Driehaus/Naples Daily News/USA TODAY - FLORIDA NETWORK)**

The robot works by emitting intense bursts of pulsed xenon ultraviolet light to penetrate the cell walls of microorganisms to destroy them and stop them from reproducing or mutating, according to Xenex officials.

The system works on bacteria, viruses, mold, fungus and spores, according to company officials.

The robots work in 5-minute cycles with the pulsed light targeted to disinfect surfaces where germs linger.

"Anything that's close to the patient that is touched frequently, like blood pressure machines, bathrooms, sinks and door knobs," said Dr. Vakhtang Bochorishvili, with NCH's Infectious Diseases Department.

NCH is using the robots initially in high-risk areas, such as in intensive care units, critical care, operating rooms, emergency departments and patient rooms, he said.

Ultimately, the hospital is striving for zero infection rates and the robot "gives us some advantage," he said.

Paul Hiltz, NCH president and CEO, said the robots were used at Mercy Medical Center in Canton, Ohio, where he was before joining NCH last fall. He wanted to bring the technology to NCH.

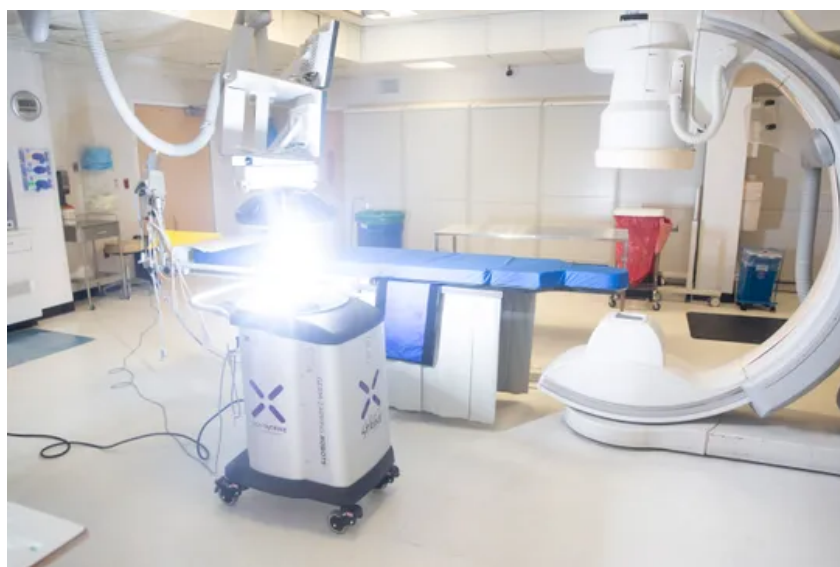
“Our goal is to provide the safest possible healing environment for our patients,” he said. “NCH already has a comprehensive infection prevention program in place and we are very excited about adding these robots to our infection prevention arsenal.”

The robot does not give an alert or report to NCH infectious disease officials about what germs it may have found after it completes a germ-destroying cycle in a room, he said.

Instead, NCH will look at its own infection data and can expect a decline going forward due to the robot, he said.

The robot does not replace manual cleaning of operating rooms and other areas where patients have been, said Georgine Kruegelbach, NCH's director of infection prevention.

“It is an extra layer of protection,” she said. “I love it. I just think it adds to our standards of care and increases safety.”



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Each robot costs \$106,000, but that expense can be covered quickly compared to the expense of caring for a patient with a hospital-associated infection which can run \$50,000, Kruegelbach said.

The three robots are based at NCH Baker Hospital Downtown but there are plans to equip North Naples Hospital.

The robot is used in 500 hospitals around the world with about 35 hospitals in Florida, according to Witt Copeland, director of client services for Xenex.

“Naples is the first in the Southwest Florida coast,” he said.

With the recent coronavirus outbreak from China which the World Health Organization declared a global health emergency, the Xenex robot has not been tested with the China strain yet, Melinda Hart, a company spokeswoman, said.

The robot has been tested with another coronavirus strain and it was effective, she said.

“We don’t have (access) to the China strain,” Hart said. “We don’t know when we will get it.”

Xenex officials have offered to work with government officials to figure out if the robot system can be useful, Copeland said.

“We are open to the idea of assisting any way we can,” he said.

Hospital acquired infections and their impact to patient care and to hospitals' safety records are critical issues for the Centers for Medicare & Medicaid and the Centers for Disease Control.

The CDC says that on any given day, one in 31 hospital patients have at least one hospital-related infection.

Nearly half million Americans annually suffer from C. diff colitis during hospitalization with symptoms of diarrhea to life-threatening colon inflammation. An estimated 15,000 deaths are directly attributed to the infection, according to the CDC.

Studies have shown hospitals spend nearly \$5 billion a year in excess health care costs due to C. diff, according to the CDC.

Another common hospital infection, MRSA, afflicts 1.2 million people annually while hospitalized, according to the CDC.

The Mayo Clinic in Minnesota conducted its own C. diff study using the Xenex robot and found a 47% reduction of the infection over a two-year period, according to study findings published in February in the American Journal of Infection Control.

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