

St. Cloud Times

A GANNETT COMPANY

MEET DORA THE ROBOT

This R2-D2-sized machine
zaps germs



St. Cloud Surgical Center engages Germ-Zapping Robot

Site among first
in nation to use
the technology

KEVIN ALLENSPACH
kallenpach@sctimes.com

TO LEARN MORE

To see a video about the Germ-Zapping Robot, visit www.sctimes.com. For more about Xenex, visit www.xenex.com. For more about St. Cloud Surgical Center, visit www.stcsurgicalcenter.com.

WHERE IT'S USED

Below is a list of hospitals in Minnesota that are using the Xenex robot:
Abbott Northwestern Hospital (Minneapolis)
Bethesda Hospital (St. Paul)
Children's Hospitals & Clinic (Minneapolis)
Essentia Health St. Mary's Medical Center (Duluth)
Fairview Southdale Hospital (Edina)
HealthPartners (Bloomington)
Minneapolis VA Health Care System (Minneapolis)
Park Nicollet Methodist Hospital (St. Louis Park)
Regions Hospital (St. Paul)

GOT A BRIGHT IDEA?

If you or someone you know is doing something innovative, creative or unique in Central Minnesota business, let us know and it could be featured here. Call Times reporter Kevin Allenspach at 320-255-8745 or email kallenpach@sctimes.com and let us know your Bright Idea.

The Xenex germ-killing robot pops up to expose the flashbulbs that fire high-intensity ultraviolet light in every direction to disinfect operating rooms or other spaces.



Robot

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procedure and Tonsager sets Dora up in a couple of positions to get the most coverage. Then, it's as simple as plugging in the machine, setting motion sensors to ensure the room won't be accidentally entered and leaving the robot alone for 5-10 minutes.

The top of the machine lifts up to reveal UV bulbs that pulse with xenon gas at high intensity in a non-mercury flashlamp. It's safe to see through the door window; Nessler and Tonsager can watch its progress. But for microorganisms, it's deadly. The exposure penetrates cell walls and fuses DNA so reproduction or mutation is impossible. It has proven to kill *Clostridium difficile*, norovirus, influenza and Methicillin-resistant *Staphylococcus aureus*.

Nessler said the machine would rid a room of the Ebola virus in two minutes. "The fact that it can kill C-diff got a lot of momentum for us," Nessler added. It's not cheap. While each sale is independently negotiated, the Xenex robots cost about \$100,000. Mark Stibich, who has a doctorate in epidemiology, invented the machine. He said you have to gauge the cost against the risk of infections.

The Centers for Disease Control and Prevention estimates 2 million people get a hospital infection annually and more than 100,000 die from health care-associated infections. "The average infection is going to cost at least \$15,000, and the hospital or surgical center isn't getting reim-

bursed for that," Stibich said. "So you have to factor that in. If you prevent two infections a year, you've got the machine paid for in four years." Stibich began developing the technology in 2009 and had some beta customers by 2011. "In 2012, we finally went full bore with our sales team," Stibich said. "Since then, we've been on a horizontal expansion. We're already in 250 acute care hospitals across the nation and now we're moving into surgical centers and long-term care facilities."



KAM ANDERSON, KANDERSO@STCLOUDTIMES.COM

St. Cloud Surgical Center Operating Room Team Leader Julie Tonsager programs the Germ-Zapping Robot to disinfect an operating room Jan. 6 at the surgical center.

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A holder on the robot contains signs that warn people not to enter the room while the robot is working. The robot uses motion sensors that will also shut it down if someone were to walk in. The ultraviolet light can damage eyes.

in 2014.

The surgical center performed its first total hip replacement on an outpatient in November. Partial and total knee replacements also are routine operations, Nessler said. In most cases, the patient goes

home the same day of surgery.

"We expect we'll be performing those operations with increasing frequency, and the Xenex machine has shown that it can produce a decrease in hospital-acquired infections," Nessler said. "It's an expensive capital outlay, but one we can justify if the future holds."

The robot doesn't replace traditional cleaning but rather acts as insurance behind it.

"We're going to expand where we use it eventually to all areas, including the lobby," Tonsager said.

Earlier this month, St. Cloud Surgical Center took possession of a second robot. It went into service before employees could name it.

"The technology may sound expensive but there's value in it, Stibich said. "We hope in a few years this will be the new standard of care."

Follow Kevin Allenspach on Twitter @KevinAllenspach. Call him at 255-8745.