

## Robotic housekeeper disinfects the rooms at Modesto hospital

A housekeeping robot at a Modesto hospital is zapping the antibiotic-resistant superbugs that can threaten the lives of patients.

The robot, named "Germinator," kills methicillin-resistant staph aureus, or MRSA, stops the norovirus and even is capable of killing Ebola, the manufacturer says.

Don't worry. Ebola has not been found at the local hospital.

"Ebola is actually easy to kill," said Melinda Hart, spokeswoman for Xenex Disinfection Services. Central Valley Specialty Hospital, at 17th and H streets, has used a Xenex germ-zapping robot for about six months. A growing number of hospitals own the 5-foot-tall cleaning robots as an extra layer of protection against superbug infections that patients can acquire in medical facilities.

Central Valley paid about \$100,000 for the machine, which some say bears a likeness to R2-D2 of "Star Wars" fame.

Hart said the robot emits a pulsing ultraviolet light to eliminate germs that linger on bedrails, tables and television remotes. Ultraviolet light, which has been used for years to disinfect wastewater, penetrates the cell walls of microorganisms, making them unable to reproduce and infect a patient, she said.

When a patient is released, housekeepers strip the bed and clean the room, wiping away any blood or phlegm. The robot is left in the room by itself, as the lamp is raised to shower the room and its contents with UV light.

Hart said the light, created by a xenon bulb, is one of the types of UV light made by the sun. The earth's ozone layer filters out this light, so the hospital germs have never been exposed to it and have no resistance, she said.

Gia Smith, chief executive officer of Central Valley, said the 100-bed long-term acute care hospital made an evidence-based decision to purchase the robot. She referred to studies that concluded the robot reduced infection rates in hospitals.

Lisa Hull, infection prevention coordinator at Central Valley, said an antibiotic-resistant infection puts a patient in peril, increases the length of a hospital stay and may require multiple rounds of powerful antibiotics.

About 30 hospitals in California, also including Doctors Medical Center of Modesto, use the housekeeping robots.

Xenex touts the system's ability to tame one of the most dangerous bacteria, clostridium difficile, a resistant bug believed to have caused a half-million infections in the United States in 2011, of which 29,000 were fatal.

Hart said the "c. diff" spores can live on a surface for five months. It takes 10 minutes of constant contact for bleach to kill the spores, but the robot does it in less time than that.

The company based in San Antonio, Texas, used the robotic system when a middle school football team had an outbreak of MRSA skin infections. The robot disinfected the locker room, helmets and pads, showers and equipment.

Hart said a Xenex robot treated a room in the Dallas hospital where an Ebola patient from Liberia had stayed in 2014. A test in a highly controlled environment showed the robot easily killed the Ebola virus, she said.

The company says only its robots are equipped with xenon bulbs, while a competitor sells germkilling systems with older mercury bulbs to create the UV light.

Every Xenex robot comes out of the factory with a name on the label – a Nobel Prize winner or often a superhero.

According to the company, the LightStrike robots can disinfect up to 62 hospital rooms a day, including patient rooms, operating rooms, emergency departments and intensive care units.

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