



Germ-Zapping Robots: Made In San Antonio

Hospital-acquired infections kill about 100,000 Americans every year, more than car wrecks, breast cancer and AIDS combined. A San Antonio company produces a device that's an effective weapon in the fight against these microscopic threats.

Viral, bacterial and fungal infections can leave hospital patients sicker than when they came in. "All of them are really scary. They're all very deadly," said Morris Miller, CEO of Xenex Disinfection Services, a company that manufactures germ-zapping robots.

The robot looks a little like R2D2 of Star Wars fame. It's a large metal cylinder about four feet tall with a domed top that lifts up to reveal the disinfecting light.

Hospitals name their robots. Some of the names are creative. There's the Germinator, Hector the Disinfector, and Snap, Crackle and Pop.

The \$100,000 machine packs a powerful punch. It uses pulsed xenon light that is 1400 times more intense than sunlight to kill pathogens on surfaces where they lurk.

Miller says in a span of as little as four minutes, the robot can wipe out unseen threats. "So you're talking about being able to do a huge amount of damage to pathogens in a very short period of time," he explained.

Xenex started five years ago with 5 employees. Now the company employs more than a hundred people who make and sell robots to more than 400 hospitals around the country.

San Antonio's University Hospital is one of them. "We have five units in the hospital. We have one unit in the clinic. And they are used daily," said infectious disease specialist Dr. Jason Bowling.

Bowling said "no touch" disinfection like the robot is an extra layer of protection for patients, after humans have used chemicals and cloths to clean. His facility uses the robots to cut down on infections like drug-resistant staph, pneumonia, and a particularly horrible diarrhea-causing organism called *Clostridium difficile* or *C. diff*.

"This bacteria forms spores," Bowling explained. "And these spores can sit in the environment and they can sit on the surface for months to years. They also are not inactivated by standard hospital disinfectants."

Bowling says University documented a 55 percent decrease in *C. diff*. infections at its hospital in 2016. He believes the robots are part of the reason why, along with hand washing and isolation precautions.

At Morningside Ministries, three Xenex robots get a workout. "

We let the robot do its thing and it destroys any germ," commented Irene Salinas, Vice President of Clinical Services.

She says the nursing home and assisted living facilities are ripe for infection spread, since the living setting is communal. "We use them every single day," she added. Morningside Ministries zaps 23 rooms a day with robots.

"These robots just add an extra layer of protection," Salinas emphasized.

University Hospital's Bowling said he likes the idea that the robot standardizes cleaning, since crews aren't always complete. "When you put in this machine that bathes the room in light, you're standardizing that disinfection," he commented.

There are a number of companies that make no-touch cleaning systems. Hospital acquired infections are the number one complication of being in the hospital. That's why new technologies using powerful UV light to kill the germs are catching on quickly.

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