Preventing Infection With Technology

Interview by Amanda Hankel, editor

With the increasing concern about healthcare-associated infections (HAI), health care facilities are looking to new technology to help them prevent infection. Here, *Surgical Products* talks with Valerie Martinez, RN, Head of Infection Control for Palomar Pomerado Health System (PPH) as its facilities begin using the Xenex Disinfection System [1], a pulsed xenon UV room disinfection technology that has been proven effective in deactivating and removing infection-causing bacteria, viruses, mold, fungus and spores from both surfaces and the air.

When we spoke with Martinez, her facility was just beginning use of the product with three system units in two sites within the health system. As the first health system in California to use this technology, Martinez discussed why her facility decided to give the Xenex system a try to help lower infection rates, and why it's important to keep up with technology to ensure patient safety.

Surgical Products: Are there certain areas of the hospital the disinfection machines will be used in?

Martinez: We are using the devices in two of our sites -- in our long-term sub acute unit at Villa Pomerado and here at Palomar Medical Center. We'll be using it in patient rooms, starting with those patients who have been in contact isolation for a multiple drug resistant organism. So, when those patients are discharged, we'll be using the machine in those rooms and doing some sampling and studies. We'll eventually move into using it in the OR where the regularly scheduled cases take place, but that's later on down the line.

Surgical Products: How did you decide to start using this technology? Are there certain goals you'd like to meet or changes you'd like to make at the facilities?

Martinez: We're building a new hospital, which will be opening in 2012, so we are always looking for new technology that we can try and then move it into our new hospital. Our technology officer saw the Xenex system and brought it to our infection control practitioners. We had heard about it through the annual APIC

meeting earlier this year.

There are different types of machines that serve this purpose, including the pulse UV and hydrogen peroxide misting and fogging. When the Xenex system was brought to us, we said, ‘We do want to try this new technology and see how it works.’ We wanted to see if it can help us. Our HAI rates are acceptable, lower than in comparison to similar hospitals across the country, but getting to the rate of zero is really where you want to be. So, with this product, as we’re studying it, we’ll find out, ‘Does it do what we want it to in killing the bacteria?’

The Xenex system is very easy and convenient and it doesn’t add more on to the actual cleaning of the room. It depends on the size of the room as to how many minutes the system needs to sit in it. At our sites, it can be anywhere from 7 to 14 minutes added on to the housekeeper’s cleaning of the room prior to use of the machine. Some of the other machines we looked at added on a few hours. With trying to get the rooms clean and looking at patient throughput, adding two hours on to cleaning of the room is just too much. This was much more convenient in doing what we wanted it to do.

Surgical Products: What had you been doing previously to disinfect the rooms?

Martinez: We follow Centers for Disease Control and Prevention (CDC) guidelines. It’s the standard of cleaning a room using an all-purpose cleaner and then a chemical disinfectant. Does it work? It works better than not doing any disinfection at all. However, there is a human factor and areas, especially high-touch areas, can be missed. We will still do the manual cleaning, but by putting this machine in the room, it will be airbags added to your seatbelt for safety. It’s a safety mechanism so you take out that human factor of somebody having to manually touch those areas and clean it. It’s going to be another extra step that will help eliminate resistant organisms that can live on surfaces for weeks to months.

Surgical Products: How has the hospital staff reacted to this change?

Martinez: They are excited about it. The environmental services staff recognizes this is one more thing that will help them in making sure the rooms are clean and as disinfected as they need to be. The staff on the floor had never really heard about this, so it’s very exciting to them because this is one more step that we are providing to ensure safety for our patients.

Surgical Products: Why is it important to have technology like this to disinfect a room? Why is it important for hospitals to know about this?

Martinez: According to the CDC, there are 1.7 million HAIs annually across the nation. About five percent of patients that are admitted will acquire a HAI and 99,000 deaths will occur, which cost billions of dollars in health care costs. Knowing that alone, why wouldn’t you want to use something that, in studies, has shown to kill the bacteria and use it in your hospital?

We are all striving to improve quality and safety for the patients that come in our hospitals and using this technology is one more thing we can do. We want to see if this is something we can use in our new hospital.

Surgical Products: What advice would you offer other facilities looking to implement new technology for infection prevention?

Martinez: When we chose this device, patient safety came first but we also thought about ease of use and convenience. There is the reality of patient throughput and flow. When you're taking down rooms to clean them and disinfect and then bringing in a machine that is going to take hours, that backs up patient flow and patients are waiting longer to get into a room.

When choosing new technology, it's important to understand:

- Is it easy to use?
- Is it easy to understand?
- Does it have safety features?
- Does it have studies that have shown it reduces or eliminates bacteria in the room?
- How does it impact the workers' jobs?

For me, patient safety is number one. That's what we're here for—patients. So, when this technology came to our infection prevention team, it was very exciting for me to take this and run with it. I believe in it and I think this is something that can really help us and work to make patients safer.

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