The Challenge: A Broken Air Conditioner Causes Greater Issues

In July 2013, the infection preventionist at The Women’s Hospital in Newburgh, Indiana, was brought in when clinical staff reported noticing condensation soaking through the ceiling tiles and moisture dripping into the facility’s Level III Neonatal Intensive Care Unit (NICU). The situation, resulting from a broken air conditioner, caused unusually high humidity, raising concern that it could create a breeding ground for dangerous pathogens. Many healthcare-associated pathogens can survive on environmental surfaces for prolonged periods of time, but in some cases moisture can improve persistence. According to Infection Preventionist Sonya Mauzey RN, BS, CIC, the NICU’s various heat- and humidity-producing equipment (such as ventilators and warming isolettes) already made the air more humid than in other parts of the hospital.

The unit was immediately evacuated and underwent thorough cleaning and disinfection, but the infection preventionist and NICU team needed to be sure that the threat was completely eliminated because NICU patients are among the most vulnerable populations treated in healthcare facilities and are already at high risk of acquiring potentially life-threatening healthcare-associated infections (HAIs) due to impaired host defense mechanisms, reduced barrier function of their skin and frequent exposure to antibiotics and invasive devices.¹

Mauzey, NICU Manager Mary Stephens and The Women’s Hospital CEO, Christina Ryan, knew they needed additional reassurance that absolutely everything was done to properly terminally clean the NICU. As a result, the hospital introduced the Clorox Healthcare™ Optimum-UV™ System to supplement manual surface cleaning protocols before reopening the unit.

“The environmental services team at The Women’s Hospital does a terrific job, but in this situation, any residual contamination could put the high acuity infants we treat in the NICU at risk,” said Mauzey. “We want our patients to have the best and safest care possible, so in working with hospital leadership the question was never whether they were willing to invest in new disinfection technology, but rather what system was best and how fast could we get it here.”

The Solution: Ensuring a Complete Clean Through UV Technology

The Women’s Hospital researched a number of vendors but chose the Clorox Healthcare™ Optimum-UV™ System based on results presented by William Rutala, PhD, MPH, at the 2013 meeting of the Association for Professionals in Infection Control and Epidemiology (APIC) that demonstrated the efficacy and advantages of the automated device, and because its cost and size aligned with their needs. The device was small and easy to maneuver in the 74-bed hospital.

After adding the UV system as an adjunct to existing protocols in the NICU, there have been no new cases of *Pseudomonas*, which was a particular pathogen of concern in this high-risk population.
Mauzey admits that the decision was an easy one, but that it was also atypical. "Ordinarily, we do go through a more formal process and involve a product evaluation and capital purchasing committees. In this emergency case, though, we worked closely to quickly identify the Clorox Healthcare™ Optimum-UV™ System. The decision to bring in and trial the UV system took under 48 hours."

**The Results: A Stronger Infection Prevention Program and Initial Reductions**

The infection prevention team already had implemented infection-control measures, including a rigorous hand hygiene campaign that was initiated in the first quarter, which had resulted in the decreased incidence of *Pseudomonas* and other organisms found on cultures. After adding the Clorox Healthcare™ Optimum-UV™ System as an adjunct to manual cleaning and disinfection protocols in the NICU in the third quarter, there have been no new cases of *Pseudomonas*, which was a pathogen of particular concern in this high-risk population.

While the Clorox Healthcare™ Optimum-UV™ System was chosen as a result of one incident, The Women’s Hospital has since expanded on this integrated approach and currently uses the UV device throughout the facility to supplement terminal cleaning of all isolation rooms and to decontaminate NICU pods at regular intervals as well as for routine terminal cleaning of operating rooms.

Mauzey feels that UV technology provides additional assurance and helps mitigate the risk of any human error in chemical cleaning disinfecting. Since the device has proven so effective, she says the hospital aims to eventually use the Clorox Healthcare™ Optimum-UV™ System to supplement terminal cleaning of all rooms on a regular scheduled basis, such as monthly or quarterly. The hospital is currently tracking incidence rates and hopes to have even more compelling data about the effects UV technology has had on its rates of infection.

For more information about the Clorox Healthcare™ Optimum-UV™ System, visit www.CloroxHealthcare.com/UVDI

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