

Ventilators Pose a Deadly Risk!

The demand for ventilators in the face of the CoVid-19 crisis has been at the forefront of discussion. In the United States, auto manufacturers Ford, GM, & Tesla have all started to manufacture ventilators to help meet that demand. With so many of these ventilators going out to the field to be used by facilities that may or may not have experience treating patients with the device, a word of warning must be sounded.

A contaminated ventilator tube can act as a pathway to the lungs for bacteria.

The use of Ventilators can cause Ventilator-Associated Pneumonia (VAP). VAP is one of the most dreaded infections that can strike a hospital patient. It afflicts up to 27 percent of those in intensive care units (ICUs) so weakened by illness or trauma that they need mechanical help to breathe. When the ventilator tube that pumps life-saving air into vulnerable lungs becomes contaminated, it can act as a pathway for bacteria to enter the respiratory tract, paving the way to a deadly VAP.

Justina Gamache, MD Resident Physician, Department of Internal Medicine, Olive View-UCLA Medical Center states, "Ventilator-associated pneumonia (VAP) notably develops in approximately 9-27% of all intubated patients and carries a mortality rate of 30-60%."¹

VAP infections are predatory infections that contribute to a much higher mortality rate. They are secondary to the illness that created the need for a ventilator in the first place, and often get overlooked. In 2009 during the H1N1 pandemic, of cases that advanced to ventilator treatment and did not recover, many of those patients died of secondary bacterial infections brought on by VAP. The CDC estimates that anywhere from 29 to 55 percent of those who died from H1N1, actually died as a result of secondary bacterial pneumonia rather than the influenza virus itself.²

Ventilator-associated Pneumonia afflicts up to 27% of ICU patients, with a mortality rate of 30-60%.

Many of the pathogens that cause VAP are growing everyday on HVAC coiling coils in the facilities treating patients on ventilators. While they may not be at levels dangerous to healthy people, they are definitely showing up in VAP patients on a consistent basis.

Now more than ever, it is vital to keep the air going into ventilators as clean as possible. A published peer-reviewed abstract³ documents the effectiveness of Steril-Aire UVC Emitters in reducing ventilator-associated pneumonia (VAP).

A recent study showed Steril-Aire UVC helps reduce microbial load in HVAC by 99.9999% in just 6 days.

The study was performed at the Buffalo Department of Pediatrics, Neonatology, Women and Children's Hospital of Buffalo (NY) over 2.5 years. The microorganisms found in the HVAC system included *Pseudomonas*, *Klebsiella*, *Serratia*, *Acinetobacter*, *Staphylococcus aureus* and *Coagulase-negative Staphylococcus* species. The study concluded that Steril-Aire germicidal UVC "eradicated microbes in HVACs and was associated with a decrease in environmental pathogens and tracheal colonization." The study showed a greater than 6 Log (that's 99.9999%) microbial load reduction per square centimeter of HVAC coil in just 6 days!

Now is the time to protect the most vulnerable amongst us and defend against VAP.

Steril-Aire, ISO Certified in both 9001:2015 and 14001:2015, launched UVC for HVAC industry in 1994 and remains the leader today. Steril-Aire is the unrivaled leader in the development of high performance UVC solutions for air and surface decontamination. Protection against VAP is just another way Steril-Aire works to keep us all safer.

¹ <https://www.medscape.com/answers/300157-19083/how-common-is-ventilator-associated-pneumonia-vap-and-what-is-the-mortality-rate>

² <https://amwell.com/cm/blog/secondary-infections/>

³ Journal of Perinatology (2011). 1-8