

May 1st, 2009

Airborne Infection Control of Swine Flu Virus

Relevance of Icleen Room Air Cleaners for Airborne Infection Control of Swine Flu Virus

Since the recent outbreak of swine influenza A (H1N1), more commonly known as swine flu, Icleen has received numerous inquiries about the applicability of its air cleaning systems to address this serious health threat.

Icleen stand-alone air cleaning systems have an immediate application in healthcare settings to reduce the risk of airborne virus transmission based on the recommendations outlined by the [Centers of Disease Control and Prevention \(CDC\)](#). The benefits of air cleaning outside of healthcare settings to help prevent the spread of the disease has yet to be substantiated, and will depend on the exact transmission characteristics and scale of infection of the swine flu.

Similar to common seasonal flu strains, transmission of the swine influenza A (H1N1) virus is spread person-to-person by airborne droplets expelled from the respiratory tract during coughing or sneezing.

Most droplets created by coughing or sneezing are relatively large (over 5 microns), and most will travel only a short distance (1-2 meters, 3-6 feet) before settling out of the air and onto surrounding surfaces. The highest risk of transmission is through the direct inhalation of these droplets occurs when in close proximity to infected individuals, after sneezing and coughing. Another source of transmission is via contact with droplet-contaminated surfaces and the subsequent transfer to mouth, nose or eyes.

It cannot be ruled out that transmission can also take place through sub-micron droplets (droplet nuclei), which may remain suspended for longer periods of time and be transported over long distances.

The CDC issued the document “Interim Guidance for Infection Control for Care of Patients with Confirmed or Suspected Swine Influenza A (H1N1) Virus Infection in a Healthcare Setting” on April 28, 2009. Recommendations for reducing exposure to the virus include masking and separating people with respiratory symptoms as well as adopting droplet control precautions, such as the use of N-95 or above respirators for healthcare personnel.

The CDC recommends placing patients with suspected or confirmed case-status in single-patient rooms, preferably rooms with negative pressure air handling with 6 to 12 air changes per hour. The CDC recommends for air to be exhausted directly outside or be filtrated though a high efficiency particulate air (HEPA) filter prior to re-circulation into the indoor environment.

Icleen offers a range of air cleaning systems, which meet the CDC guidelines in terms of filtration efficiency and air changes per hour. In addition, Icleen offers accessories for creating negative pressure environments.

Leading medical and research institutions around the world rely on Icleen air cleaning systems for their critical airborne infection control needs. The Hong Kong Hospital Authority selected Icleen as the only mobile air filtration solution for SARS patient rooms to protect staff, visitors and patients. Currently over 150 hospitals, clinics and health-care centers in Hong Kong alone are equipped with Icleen air cleaning systems. Throughout Europe, North America, the Middle East and Asia, Icleen systems are being used in healthcare settings for the control of infections including SARS, MRSA, TB, and avian flu.