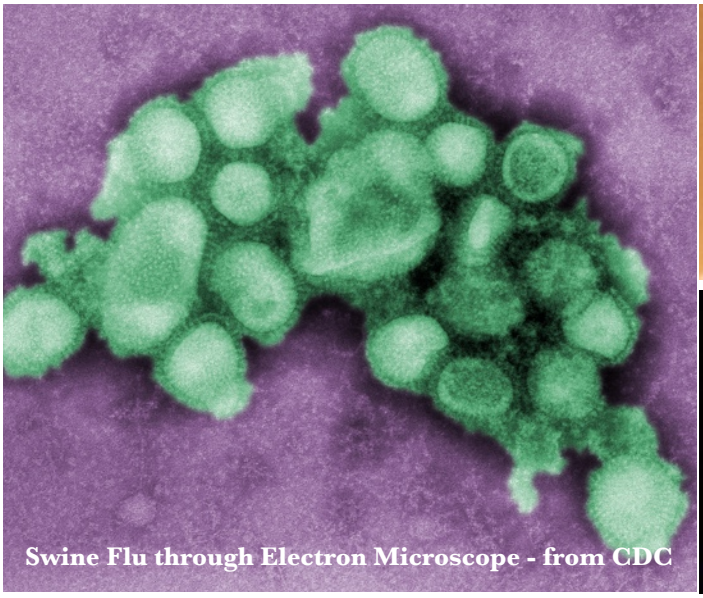
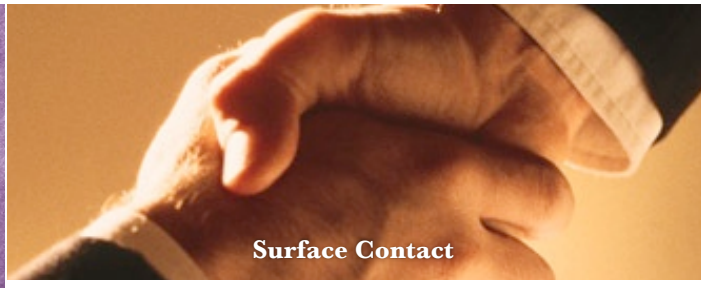
SWINE FLU

INFECTION CONTROL OVERVIEW



Swine Flu through Electron Microscope - from CDC



Surface Contact

Airborne (Droplet nuclei)

The Swine Flu has certainly grabbed our attention over the last few weeks. The Swine Flu, specifically Swine influenza A (H1N1), is a respiratory disease of pigs. Historically swine flu has not typically infected humans and those few who were infected had been exposed directly to an infected pig. In recent days, however the Centers for Disease Control and Prevention (CDC) has determined that the Swine influenza virus is contagious and is spreading from human-to-human.

Like all types of influenza, the Swine Flu is a virus that is spread from human-to-human through two main methods - airborne and surface contact.

Airborne

The particle size of viruses ranges from 0.05 to less than 0.005 microns but typically attached to larger particles when airborne. These particles are typically around 1 micron in size. Influenza viruses typically become airborne via droplet nuclei. Droplet nuclei are microscopic particles < 5 µm in size that are the leftover particles of evaporated droplets and are produced when a person coughs, sneezes, shouts, or sings. These particles can remain suspended in the air for prolonged periods of time and can be carried great distances on air currents. This is the main method of transmission for most types of influenza.

Surface

Another significant method of transmission is via surface contact. Transmission can occur as a result of person-to-person contact, such as a handshake or via fomites. Transmission via fomites occur when a person becomes infected by touching a surface, such as a door knob, with the flu virus on it and then touching their mouth or nose. We know that some viruses can live for several hours on fomites.

Summary

Infection control of influenza viruses can present many challenges. Obviously personal hygiene is the first line of defense. UV light systems have been documented effective against many bio-aerosols and the use of high intensity ultra-violet germicidal systems can help control the airborne transmission of the influenza virus. In addition to UV light systems portable HEPA filtration systems with UV lights are also useful in creating clean zones and controlling room pressurization. HVAC air filtration products with documented efficiencies on 1 micron sized particles can also be an effective tool to help in the reduction of airborne droplet nuclei. Contact your local Tri-Dim representative for assistance in developing an effective infection control strategy for the swine flu virus.

ENERGY STAR PARTNER

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