



Delivery of Aerosol Medication During A Heightened Swine Influenza Pandemic Alert

Today, the World Health Organization issued a statement regarding the confirmed outbreaks of A/H1N1 swine influenza in Mexico, United States and Canada. The WHO has raised the level of influenza pandemic alert to Phase 4. Phase 4 is characterized by verified transmission of a virus that is able to cause "community-level outbreaks". The ability to cause sustained disease outbreaks in a community marks a significant upwards shift in the risk for a pandemic. While Phases 1-3 correlate with planning and preparedness, Phase 4 marks a clear signal for the need for response and mitigation efforts.

Trudell Medical International designs, manufactures and distributes devices used in the treatment of respiratory illness and diseases. At this more sensitive time, it is important to heed the Precautionary Principle that was often cited by The SARS Commission in December 2006. The Precautionary Principle states that action to reduce risk need not await scientific certainty. As more information is learned regarding the transmission of swine influenza, consider the need to reduce risk whenever delivering aerosol medication.

- If an inhaled aerosol drug is available in a pressurized Metered Dose Inhaler format, it should be delivered with *AeroChamber*[®] Valved Holding Chamber; or by dry powder.¹
- If a nebulized treatment is deemed required, choose a nebulizer that reduces Fugitive Emission of aerosol droplets.

Motivated by influenza pandemic preparedness, a team of researchers recently studied the dispersion distances of exhaled air and aerosolized droplets during use of a jet nebulizer. Published in March 2009 CHEST, findings show that a continuous nebulizer with a mask attachment had extensive leakage out the side vents of the mask even in an isolation room with negative pressure. The authors recommend that healthcare workers should take extra protective precaution as a result.²

In contrast to continuous nebulizers, the *AeroEclipse*[®] II Breath Actuated Nebulizer (BAN) produces aerosol only on inspiration. *AeroEclipse*[®] II BAN is designed so significantly less drug is lost to the environment (continuous nebulizers ranged from 30-40% fugitive emissions). The unique Breath Actuation feature of the *AeroEclipse*[®] II BAN may provide for a safer healthcare and patient environment by reducing the possibility for airborne pathogens to attach to droplets.

The current situation posed by swine influenza may provide an opportunity to closely examine current nebulization practices and look to new technology for delivering inhaled solutions.

Trudell has developed an internationally recognized leadership in the development and manufacture of aerosol drug delivery devices that enhance the quality of life for those afflicted with respiratory disease.

¹*SARS Directive to All Ontario Health Care Facilities/Settings for High-Risk Aerosol-Generating Procedures Under Outbreak Conditions*; Ministry of Health and Long-Term Care Directive HR04-13, April 15, 2004

²Hui D, Chow B, Chu L, Ng S, Hall S, Gin T, Chan M; *Exhaled Air and Aerosolized Droplet Dispersion During Application of a Jet Nebulizer*; CHEST March 2009 vol. 135 no. 3, 648-654