

Delivery of Aerosol Medication During a Phase 6 Influenza A (H1N1) Pandemic Alert

According to the World Health Organization as of June 15, 2009, 76 countries have officially reported 35,928 cases of influenza A (H1N1) infection, including 163 deaths. The WHO has raised the level of influenza pandemic alert to Phase 6. Phase 6 calls for implementation of individual, societal and pharmaceutical measures to reduce the spread of disease.

The WHO Interim Guidelines *Infection prevention and control of epidemic- and pandemic-prone acute respiratory diseases in health care* cite nebulization as a controversial/possible increase in risk of respiratory pathogen transmission.¹ Trudell Medical International designs, manufactures and distributes devices used in the treatment of respiratory illness and diseases. Consider the importance of heeding the Precautionary Principle that was often cited by the Canadian 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 influenza A (H1N1), 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.²
- If a nebulized treatment is deemed required, choose a nebulizer that reduces Fugitive Emission of aerosol droplets/droplet nuclei.

Motivated by influenza pandemic preparedness, a team of researchers recently studied the dispersion distances of exhaled air and aerosolized droplets/droplet nuclei 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.³

In contrast to continuous nebulizers, the **AeroEclipse[®] II** Breath Actuated Nebulizer (BAN) produces aerosol 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/droplet nuclei.

The current situation posed by influenza A (H1N1) 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 Infection prevention and control of epidemic- and pandemic-prone acute respiratory diseases in health care, WHO Interim Guidelines June 2007, p43
² 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
³ Hui 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

