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SWINE FLU AND RESPIRATORY PROTECTION

Dear Sir,

The Swine flu is expected to emerge as a major hazard this fall/winter[1] with small outbreaks occurring over the summer.[2] Transmission of influenza occurs through three routes: droplet, airborne and contact. There remains a great debate as to the predominant mode of transmission for this virus.[3] However, sufficient evidence exists that aerosol transmission is an effective route of transmission. Healthcare workers are on the frontline of these infectious disease events. Hand washing and the disinfecting of surfaces have been shown to be effective against contact (e.g. fomite transmission) and settled droplets.[4] In almost all cases, droplets will settle out quickly, although they can, through release (e.g. sneezing), contact mucus membranes and result in disease. What is often discussed is the applicability of respirators in providing protection against this virus. The question that arises is what type of respirator? Numerous reports have recommended inadequate respirators (e.g. surgical masks),[3] along with some locations not being prepared for an emerging influenza outbreak.[5] However, the concept of the importance of respirator use is apparently being recognised in the clinical setting,[2] especially since the incubation period is relatively short (e.g. about 1.4 days)[6] and H1N1 has been shown to have a low inactivation rate (about 0.05^{-1} day).[4]

Lessons from the severe acute respiratory syndrome (SARS) event are applicable to the upcoming potential influenza (H1N1) pandemic. Numerous reports have shown that respirators are effective as a preventative mechanism for airborne transmitted viruses.[4,7] Quantitative[8] and qualitative[7] reviews of respiratory protection against SARS and related viruses have suggested that N95 (HEPA) respirators are effective against these agents. Both reports found that non-HEPA respirators (e.g. surgical masks) are not protective.

There appears to be little preparation by the healthcare industry for this emerging pandemic. Failure to be prepared was painfully learned during the SARS outbreak. What must be remembered are not only the requirements of respirators and personal protective equipment, but training and frequent reminders on how to use the various equipment. Included with these activities would be fit testing and the re-enforcement of applicable practices on use (positive/negative pressure fit test). This becomes even more important with the knowledge that those on the frontlines are unlikely to use personal protective equipment, at least to a level that will provide protection.

As emphasised by Wong,[5] without diligent effort at this time, some of the same issues that occurred during the SARS event will be seen with the Swine flu. However, with H1N1, the locations involved will not be isolated, but likely worldwide. All we are doing at the present time is changing the name of the event and not the outcome.

Yours sincerely,

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