SARS respiratory protection: update

In previous letters[1,2] I suggested that proper use of an N100 respirator provides the best protection against SARS. The US Centers for Disease Control and Prevention (CDC) recently reported that the SARS virus can be transmitted by fomites and aerosols and that infection can occur via the mucous membranes of the mouth and eyes (the conjunctiva).[3] The CDC report[3] recommended use of an N95 respirator (a half-mask) for protection against SARS, but the finding that transmission can occur through the eyes indicates that a half-mask respirator is *not* appropriate for this purpose. This conclusion is supported by 3 other recent publications[4-6] reporting that N95 respirators do not appear to be effective. This ineffectiveness is due to the particle size of the SARS virus, poor fit and inadequate eye protection. Instead, use of an elastomeric (rubber) full-face respirator with an ultra-low penetrating air (ULPA) filter, rather than a high-efficiency particulate air filter, is warranted (e.g., North full-face respiratory 7600 series, see www.websoft-solutions.net/ProductDetails.asp?ProductCode=Nr7600Ser). Ideally, the full-face respirator will have a double seal for better fit to the face and to reduce leakage. The full-face respirator has the advantage of protecting the mucous membranes of the face, whereas N95 and N100 respirators do not offer this protection. Protection of the entire face, including the eyes, is especially important, given that it has been suggested that infection occurs through this route.[7] The disadvantages of this type of respirator are the cleaning, disinfection and maintenance requirements.

Use of a full-face respirator affords the highest level of protection without employing a positive-pressure respirator system. A full-face respirator combined with a ULPA filter provides the most practical and cost-effective protection against airborne particles such as the SARS virus. Although the full-face respirator costs more than a disposable N95 respirator (about US$120 v. US$5), the greater risk of infection with the N95 respirator justifies the extra cost.

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References

1. Lange JH. The best protection [letter]. *CMAJ* 2003;168(12):1524.
2. Lange JH. SARS respiratory protection [letter]. *CMAJ* 2003;169(6):541-2.
3. *Draft. Public health guidance for community-level preparedness and response to severe acute respiratory syndrome (SARS)*. Atlanta: Centers for Disease Control and Prevention; 2003 Nov 3. Available: www.cdc.gov/ncidod/sars/sarsprepplan.htm (accessed 2003 Dec 30).
4. Ho AS, Sung JJY, Chan-Yeung M. An outbreak of severe acute respiratory syndrome among hospital workers in a community hospital in Hong Kong. *Ann Intern Med* 2003;139:564-7.
5. Scales DC, Green K, Chan AK, Poutanen SM, Foster D, Nowak K, et al. Illness in intensive care staff after brief exposure to severe acute respiratory syndrome. *Emerg Infect Dis* 2003;9:1205-10.
6. Ofner M, Lem M, Sarwal S, Vearncombe M, Simor A. From the Centers for Disease Control and Prevention. Cluster of severe acute respiratory syndrome cases among protected health-care workers — Toronto, Canada. *JAMA* 2003;289:2788-9.
7. Fisher DA, Chew MN, Lim YT, Tambyah PA. Preventing local transmission of SARS: lessons from Singapore. *Med J Aust* 2003;178:555-8.

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Penny wise, pound foolish

It was with some alarm that I read recently in *CMAJ*[1] that the survival of the Canadian Task Force on Preventive Health Care is in doubt because of a funding crunch.

Making the best use of available knowledge and resources involves systematic assessment of research evidence, with a view to ensuring that we invest only in interventions that have been demonstrated to be effective. The task force has been a world leader in assessing and disseminating best practices in clinical prevention. Its current level of funding is actually rather puny, in relation to both the value of its work and the scale of the challenges it faces in keeping up with a constantly growing body of evidence. Rather than discontinuing the capacity to perform that function for clinical prevention, we should be applying the same approach to the population-level interventions that are the purview of public health.

The Board of Directors of the Canadian Public Health Association calls on Health Canada to continue financial and infrastructure support for guidelines for clinical preventive services. In addition, we urge the creation of a similar mechanism for developing best- practices guidelines for community-based and population-level prevention.

It would indeed be penny-wise and pound foolish to dismantle this pillar of evidence-based medicine and one of Canada's best tools for ensuring that the resources allocated to the health care system are used wisely.

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Reference

1. Obituary: the Canadian Task Force on Preventive Health Care [editorial]. *CMAJ* 2003;169(11):1137.