

Strengthening respiratory protection from SARS-CoV-2 in certain general practice contexts

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THIS BRIEF CONTRIBUTION addresses one element of the comprehensive infection prevention and control (IPC) programs needed to prevent work-related SARS-CoV-2 infection in healthcare workers: respiratory protection. Further, this contribution applies specifically to the general practice context.

Most IPC guidance to date has been based on assumptions that transmission of SARS-CoV-2 occurs via large droplets that travel up to 1.5–2.0 metres and by contact with contaminated surfaces, and that aerosols only play a part in transmission of the virus during aerosol-generating procedures (AGPs). While most current evidence supports these as the predominant routes of transmission,¹ evidence that airborne transmission of SARS-CoV-2 might occur outside of AGPs is mounting.^{2,3} Although evidence of airborne transmission is neither conclusive nor suspected to be a major route of transmission, we recommend a precautionary approach to respiratory protection for potentially exposed healthcare workers until the efficacy of surgical masks can be proven. In particular, we propose:

Where there is community transmission, or other reasons to expect a high probability of patients who are SARS-CoV-2 positive, particulate filter respirators such as N95/P2 should be used for throat and deep

nasal swab collection (SARS-CoV-2 polymerase chain reaction testing) and other close contact with potentially infected patients in general practice settings including respiratory clinics and drive-through testing facilities.

An N95/P2 respirator is specifically designed to fit around the face for respiratory protection and to prevent the inhalation of $\geq 95\%$ of airborne particles. A recent systematic review and meta-analysis found that N95 respirators provided significantly stronger protection from severe acute respiratory syndrome (SARS), Middle East respiratory syndrome (MERS) and SARS-CoV-2 viral transmission than surgical masks.⁴

Recent guidance from The Royal Australian College of General Practitioners (RACGP) recommends surgical masks/droplet precautions for throat and deep nasal swab collection.⁵ For GP-led COVID-19 respiratory clinics,⁶ the RACGP also recommends droplet precautions for close patient contact, and N95/P2 respirators only for contact with patients exhibiting severe pneumonia-like symptoms.

Commonwealth guidelines accessed 16 August 2020 recommend the use of an N95/P2 respirator only when performing AGP on patients with confirmed or suspected COVID-19.⁷

Victorian Department of Health and Human Services guidance (issued 10 September 2020) is more open to interpretation with respect to respiratory protection, recommending the use of N95/P2 respirators where patients with suspected or confirmed COVID-19 are

being ‘cohorted’ (presumably meaning co-located, as in a COVID-19 ward), where AGPs are being performed or where an ‘unplanned AGP’ might occur (eg due to ‘screaming, shouting, crying out, and vomiting’).⁸ Such patient behaviour may be more common in institutional settings, but it could also occur in general practice contexts. In summary, our recommendation could be read as consistent with Victorian guidance, but would exceed the current RACGP and Commonwealth recommendations.

Occupational health and safety (OHS) law is also relevant. While legislation varies by state or territory, the general requirement is that employers must protect employees from recognised risks to the extent feasible. OHS law is subject to interpretation, but it is clear that there is a large and concerning number of occupational infections overall in Victoria, and this includes 36 infections (at 23 August 2020) related to general practice clinics.⁹ It is not currently known whether or how many occupational infections – in any context – occurred via aerosol transmission. Carefully designed studies and time will be required to answer this question. In the meantime, the use of particle-filtering respirators is a clearly feasible risk-mitigation strategy that we should implement now alongside other measures.

It is crucial to emphasise that respiratory protection and appropriate fit testing is only one element in a comprehensive IPC program.^{10,11} Other program elements include, for example, thorough IPC training for all staff, eye

protection, dedicated donning and doffing areas, physical distancing, frequent and rigorous hand sanitation, meticulous mechanical cleaning of patient care areas, and modification of staffing and/or workloads to accommodate increased demands posed by attention to IPC.

We suggest that the RACGP and Commonwealth and Victorian authorities review their guidance to consider the use of particle-filtering respirators in the specified general practice context as a precautionary approach. This would also serve to harmonise recommended best practice in this regard across these three important authorities for the general practice community.

The protection of the healthcare workforce from occupational infection is an urgent priority, and we argue that our recommendation constitutes a relatively modest, feasible and precautionary refinement of recommended best practice.

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