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## Addendum to the Recommendations for PPE in the ED During COVID-19 Position Statement December 2021

In April 2020 the Canadian Association of Emergency Physicians (CAEP) released its position statement [\*Recommendations for PPE in the Emergency Department During COVID-19\*](#). The document was based on then-current information regarding aerosol-generating medical procedures (AGMPs) in the context of a relative shortage of personal protective equipment (PPE). The recommendations focused on emergency department (ED) resuscitation and the preamble explicitly recognized that “the science is limited, changing rapidly and as further information becomes available, it should be incorporated into existing guidelines.”

The original CAEP recommendations, along with those of most regulatory bodies and hospitals, have been associated with an overwhelmingly positive record of safety for emergency physicians—even among those working in communities with significant outbreaks and even before the arrival of COVID-19 vaccines. At this time, the accrual of new evidence indicates an update of the original statement and some of its terminology is warranted.

The following addendum is based on the most current evidence. It focuses on a reasonable approach to PPE that considers the balance of risks to a provider in an individual patient encounter. As stated in the original document, COVID-19 can be transmitted by both droplets and aerosols. Further, while there are procedures and treatments (such as nebulization) that increase the risk of the virus being spread to care providers, there is also evidence of viral dispersal in the absence of those procedures. Also, the term *aerosol-generating medical procedures* could be misinterpreted as suggesting no aerosolization in the absence of such procedures, creating a false sense of security. The early, dichotomous nomenclature of aerosol versus droplet routes of transmission is now best described as a continuum of viral dispersal predicated on multiple factors. Accordingly, the term *aerosol-generating medical procedures*, which was in common use when the original recommendations were released, should be abandoned in favour of the term *high-risk procedures*.

Exposure to viral particles is modulated by differences in shedding rates between individuals, variations in viral load during phases of the disease, the general prevalence of COVID-19 in the community, and the percentage of unvaccinated individuals in the community. While the vast majority of health care workers who acquire COVID-19 become infected outside the workplace, between 10% and 15% of them are infected at work, mostly through contact with asymptomatic infected individuals, both peers and patients. In this regard, it is recognized that compliance with proper mask-wearing varies, and mask fatigue is a risk to providers. Consistent adherence to reasonable PPE recommendations that respect clinician judgment and autonomy seems a safer approach than mandating the use of full PPE for every patient encounter.

Ultimately, the key factor governing viral transmission remains the infectious dose; that is, the greater the amount of virus inhaled, the greater the risk of infection. Viral exposure is, in turn, determined by community prevalence, community vaccination levels, patient proximity, duration of exposure, and ventilation. While a graded approach to respiratory protection that considers all of the above would be

ideal, these factors are often beyond the control of emergency physicians, leaving practitioners to rely on PPE as their main line of defence.

The original recommendations were written during a period when N95 masks were in short supply, coupled with a degree of anxiety unseen in the medical world since the beginning of the AIDS epidemic. The potential for shortages of masks required for high-risk situations necessitated a triaged approach to the use of this critical resource. Current supplies allow for the broader use of N95 masks without jeopardizing the safety of our colleagues and teammates.

While the volume of evidence on disease transmission is now far more abundant than in the early stages of the pandemic, it is far from complete and it is often difficult to apply generalizations to a specific patient encounter. As such, CAEP's original recommendations on exercising caution and respecting the care provider's risk assessment at the point of care remain.

Based on these considerations, CAEP is providing the following addendum to its original position and recommendations:

1. N95\* masks should be worn in any clinical situation in which the patient presents as a high risk for COVID-19 transmission based on the clinical presentation, epidemiologic and environmental factors, and the treatments and procedures needed.
2. The term *aerosol-generating medical procedures* should be abandoned in favour of the phrase *high-risk procedures*.
3. Where the supply of masks is adequate, it is reasonable for a caregiver to wear an N95 mask in any given patient encounter based on their point-of-care risk assessment.
4. All emergency physicians should be comfortable applying a point-of-care risk assessment that takes into account individual patient factors, the community prevalence of COVID-19, community vaccination rates, patient proximity, duration of exposure, and ventilation.
5. There is currently no evidence to support mandatory N95 masks for all patient care encounters in the ED.
6. Workplaces should aspire to "mask equity," meaning that colleagues and teammates working side by side should have equal access to the same level of PPE.
7. Workplaces should recognize the cumulative strain of the pandemic on the mental health of those providing care in the ED, which has been exacerbated by uncertainty as evidence has evolved. As such, they should promote the rights of physicians, nurses, and other staff members to have autonomy over evidence-based decisions regarding safety while providing patient care.

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\*References to N95 masks are meant to cover equivalent masks as well. Those providing care in the ED who maintain beards for religious beliefs or have medical conditions requiring an alternative mask should be accommodated to the extent possible.

Additional reading: Klompas M, Milton DK, Rhee C, Baker MA, Leekha S. Current insights into respiratory virus transmission and potential implications for infection control programs: a narrative review. *Ann Intern Med*. Epub ahead of print 2021 Nov 9. DOI: 10.7326/M21-2780