ACIPC
Australasian College
for Infection Prevention and Control

Position Statement

The use of particulate filter respirators (PFR) masks for the management of COVID-19 in healthcare settings

The Australasian College for Infection Prevention and Control (ACIPC) acknowledges the airborne/inhalation (airborne) transmission risks posed by COVID-19, especially within healthcare settings. ACIPC challenges current Australian infection prevention and control guidelines, which currently recommend surgical masks based on risk assessment, advocating instead for the consistent use of particulate filter respirators (PFR) in all healthcare environments where COVID-19 is suspected or confirmed. PFRs play a crucial role in mitigating airborne transmission of COVID-19. Current evidence demonstrates that PFRs provide superior protection over surgical masks in preventing airborne transmission.

Purpose

To advocate for the use of PFR in the management of COVID-19 in healthcare settings.

Background

The spread of COVID-19 through airborne transmission is well-documented. Aerosols generated by respiratory activities can remain suspended in the air for prolonged periods, posing a significant risk of transmission, particularly in enclosed environments (8). Research continues to highlight that airborne transmission may be the dominant route of transmission, thus necessitating enhanced protective measures. (6,13)

Healthcare settings, including areas where aerosol-generating procedures (AGPs) are performed, where aerosol-generating behaviours (AGBs) occur, or areas with inadequate ventilation, are considered environments with a high risk of prolonged exposure to aerosolised particles.

Comparison of PFR and Surgical Masks

A PFR provides higher protection than surgical masks by filtering at least 95% of airborne particles, including smaller aerosolised particles. Surgical masks, while effective in blocking larger droplets, are not designed to filter aerosols, making them less effective in protecting healthcare workers and individuals against airborne transmission of COVID-19. Numerous studies have shown that healthcare workers wearing PFRs experience lower rates of infection compared to those using surgical masks, particularly in high-risk settings. (7,12)

Efficacy of PFRs

PFRs provide a tighter seal around the face and ensure better protection against airborne particles. (6) Their design allows for higher filtration rates and less leakage, which is critical during high-risk interactions, such as performing AGPs or caring for people with COVID-19 in healthcare environments.

(7) The scientific consensus supports the use of PFR in these settings to protect healthcare workers and individuals from inhaling potentially infectious aerosols.

International and National Guidelines

International guidelines, including those from the CDC (2022), WHO (2023), Public Health Agency of Canada (2023) and Public Health England (2023), have consistently and strongly recommended PFR use in high-risk healthcare settings. These organisations acknowledge that airborne transmission is a primary route of infection for COVID-19, particularly in areas with high viral load or during AGPs.

In contrast, the Australian Government's guidelines for infection control, including the Australian Guidelines for the Prevention and Control of Infection in Healthcare (2019) and the Aged Care Infection Prevention and Control Guide (2024), continue to emphasise the use of surgical masks as standard PPE in most settings, reserving PFR for high-risk exposure scenarios (e.g., AGPs).

Following a review of the evidence and literature, ACIPC disputes this approach, arguing that it underestimates the risk of airborne transmission in healthcare environments and fails to provide adequate protection for healthcare workers and individuals, particularly in situations with significant potential for aerosol exposure.

ACIPC asserts that PFR masks and eye protection should be the standard PPE in all healthcare settings where airborne/inhalation transmission is a risk, not just during AGPs or with COVID-19-positive patients/individuals.

Position Statement

Transmission of COVID-19 through the air is by both direct deposition and airborne/inhalational routes. Evidence demonstrates that COVID-19 is capable of airborne transmission, particularly in enclosed spaces, where there is high viral loading and during AGPs. Healthcare workers are at an increased risk due to frequent close contact with patients/individuals and the potential for exposure to aerosolised viral particles. As such, appropriate PPE, inclusive of PFRs, is crucial in reducing transmission risks.

ACIPC disagrees with Australian infection prevention and control guidelines, (1,9) which recommend surgical masks as standard PPE in healthcare settings, especially in environments where there is suspected and/or confirmed COVID-19, heightening the risk for airborne transmission. This statement provides an overview of the need for and benefits of PFR masks in mitigating airborne transmission in healthcare environments.

ACIPC recommends:

- PFR use in the management of COVID-19 and all pathogens transmitted via the airborne/inhalational route.
- The risk of airborne/inhalation transmission of COVID-19 in healthcare settings is recognised and included in the National guidelines.

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- A revision of national IPC guidelines to reflect evidence on airborne/inhalational risks and support PFR mask usage.
- All healthcare workers undergo training, annual fit testing and competency assessment to ensure the correct PFR is identified and used.
- Ventilation and indoor air quality are improved within healthcare settings.

Scope of Applicability

This position statement applies to all healthcare settings.

Definitions

Term	Defininiton
Airborne/inhalation transmission	The spread of infectious agents through aerosolised particles that can be inhaled into the respiratory system.
Aerosol generating behaviours (AGB)	Activities that produce tiny particles suspended in the air, potentially carrying infectious agents, e.g., singing, yelling
Aerosol-generating procedures (AGP)	Interventions that create airborne particles, increasing the risk of transmission of infection, e.g., intubation, suctioning, nebuliser, CPAP
Airborne particles	Microscopic particles that remain suspended in the air for prolonged periods of time, and can carry infectious particles
Coronavirus disease (COVID-19)	Caused by SARS-CoV-2. A viral respiratory illness ranging from mild to severe symptoms, with serious risks for vulnerable populations.
Continuous Positive Airway Pressure (CPAP)	Medical treatment that uses a constant flow of air to keep airways open.
Healthcare setting	The environment within which health care is provided. A healthcare setting, includes but not limited to hospitals, residential aged care facilities, community/primary health and private office-based settings.
Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2)	A novel coronavirus responsible for causing COVID-19, primarily transmitted through respiratory droplets and aerosolized particles.
Direct deposition	The process by which respiratory droplets are inhaled and settle directly onto the respiratory tract or mucous membranes.
Particulate filter respirators (PFR)	Personal protective equipment designed to filter out airborne particles, providing a higher level of protection against inhalation of harmful particles compared to surgical masks.
Respiratory droplets	Small particles of moisture expelled from the respiratory tract when a person coughs, sneezes, or breathes, which can carry infectious agents.
Surgical mask	A loose-fitting single use face covering that covers the nose and mouth, designed to protect the wearer from inhaling respiratory particles or from splashes of blood or body fluid.

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Endorsement / Approval

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1.0	April 2025	New position statement	IPC Clinical Nurse Consultant	ACIPC Board
2.0	Feb 2026	Reformatted	IPC Clinical Nurse Consultant	Adv IPC Committee

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