NEW ZEALAND NURSES ORGANISATION | TŌPŪTANGA TAPUHI KAITIAKI O AOTEAROA

PRACTICE

POSITION STATEMENT

Rāhui COVID-19: Personal Protective Equipment to guide risk assessment, 2020

***ALERT* Evidence regarding Rāhui COVID-19 is continually evolving. This position statement is a living document which is updated regularly to reflect emerging evidence.**

Purpose

The purpose of this statement is to outline NZNO recommended use of Personal Protective Equipment (PPE). This is to assist our members with a PPE guide risk assessment.

NZNO Statement

NZNO position is based on the latest up to date evidence from international and national guidelines for PPE use by healthcare workers in the Rāhui COVID-19 context. The statement is evidenced by the latest World Health Organization (WHO) publications and refers to Aotearoa New Zealand Ministry of Health (MoH) guidelines. The WHO publications include:

- Rational use of PPE for coronavirus disease (COVID-19) - Interim Guidance March 19 2020: World Health Organization.[1]
- Advice on the use of masks in the community during home care and in healthcare settings in the context of the novel coronavirus (2019 ncov) outbreak April 6 2020 publication.[2]

NZNO recommends that:

1. Healthcare staff must be supplied the same minimum level of personal protection as MoH guidelines for essential non-health staff, so that healthcare staff have access to medical grade surgical masks when engaging with people regardless of COVID-19 status when unable to maintain a one metre physical distance.[3]

2. Healthcare staff caring for people with suspected or confirmed COVID-19 status must be supplied with N95 masks, eye protection, gowns and gloves, as per US CDC advice.[4.]

3. Providers establish clear systems to implement certification processes for annual fit tests of N95 respirators, as well as requiring the healthcare worker to complete a 'fit check' (also known as a 'user seal check') each time then donning respirators.[5]

Key messages:

4. The MoH has produced guidelines for healthcare and other essential staff and members of the public regarding the use of PPE.[6] The guidelines are based on WHO guidelines.

5. Health systems and providers must ensure healthcare staff and others in contact or close proximity to all people seeking health care, and especially to people with suspected or confirmed COVID-19 infection receive appropriate PPE, clear and understandable information on PPE use, removal, and disposal, and associated resources, information, and services to maintain safe, effective infection control.

6. Emerging evidence includes recognition that it is possible that people infected with COVID-19 could transmit the virus before symptoms develop.(see Footnote 2)

7. Wearing a medical grade surgical mask is one of the prevention measures that can limit the spread of certain respiratory viral diseases, including COVID-19.(see Footnote 2) above

8. Readily available and appropriate use of PPE is not effective as a standalone measure for infection control. Correct and consistently applied hygiene and infection control methods, organisational and point of care risk assessment, engineering and system controls, administrative controls, and patient accommodation must be implemented in tandem for PPE to be effective.

9. Guidance for PPE use differs somewhat between countries and settings and is continually evolving based on emerging evidence.

The MoH recommendations

In Aotearoa New Zealand, the MoH has produced information resources for healthcare and other essential staff and members of the public regarding the use of PPE.(see Footnote 5) While consistent in some sources, there are some key points of difference between this advice and the WHO's guidance described above in some documents: (see Foonote 1)

1. Essential non-health staff working in selected settings are advised to wear PPE where unable to maintain a distance of one-metre, and with physical contact and where there is risk of contact with body fluids.(see Footnote 3) The WHO guidelines make no reference to PPE precautions for such staff.

2. Healthcare staff working in hospital and directly exposed to patients with suspected or confirmed COVID-19 have been advised to wear the same equipment as the WHO's guidance (the WHO's guidance recommends gowns, gloves, surgical masks, eye protection (goggles or face shields). The MoH advice **further specifies** that the gown be long-sleeved and impervious to liquids, and that the gloves be non-sterile.[7]

3. The MoH Guidance for triage health care workers completing preliminary screening

not involving direct contact differs from the WHO guidelines for the same activity. The WHO guidelines require no PPE to be used if a distance of at least 1 metre is maintained between the health care worker and the patient. The MoH guidelines do not describe what PPE applies in the situation of preliminary screening, instead it recommends that emergency triage staff assessing unwell patients, and Community Based Assessment Centre staff responsible for assessing and taking swabs from a person with suspected COVID-19 wear 'contact and droplet' precautions PPE (comprising mask, eye protection, gloves and gown).[8]

4. The MoH Guide for staff caring for COVID-19 positive people in hospital provides guidelines for two scenarios:

    1) the care of a COVID-19 positive patient in a single room; and

    2) the care of COVID-19 positive patients in a cohorted room (bay of 2 or more people).(see Footnote 7)

    These guidelines for each scenario are identical except for the prohibition of administering nebulized medications to patients in a cohorted room, whereas it is permitted in a single room as long as an N95 mask is worn during the administration of nebulized medications.

5. The MoH Guidelines for PPE use by community providers in a range of settings including aged residential care, age-related community care, marae and churches, disability, hospice and home care are different to the WHO guidance for community care.[9] The MoH guidelines recommend use of specific PPE for care of a patient confirmed or suspected to be COVID-positive (comprising mask, eye protection, gloves and gown) while the WHO guideline differentiates between whether the caregiver is providing indirect care (wear medical grade surgical mask) or providing direct care (comprising gloves, mask and apron (if risk of splash). The WHO guidelines also differentiate between recommendations for PPE worn during provision of direct care by caregivers versus recommendations for PPE worn by health care workers (includes gowns and eye protection), whereas the MoH guidelines do not. The draft (at time of this document's publication) MoH Disability Support PPE guidelines apply to both formal care workers and informal support people, including family, friends and neighbours.

6. The MoH Guidelines for PPE use by cleaners in hospital settings are different to the WHO guidance. The MoH guidelines differentiate between a room occupied by a patient who is COVID-19 positive and an unoccupied room. When a COVID-19 positive patient is in the room, the MoH Guidelines recommend use of 'contact and droplet' precautions PPE (comprising mask, eye protection, gloves and gown) while the WHO guideline recommends the same equipment as well as specifying boots or closed work shoes. The MoH guidelines state that if the patient who is COVID-19 positive is not in the room, then 'standard operating procedure' applies.(see Footnote 8)

WHO Evidence Summary:

Background

COVID-19 (from 'severe acute respiratory syndrome coronavirus 2' (or 'SARS-CoV-2') is a newly discovered (novel) corona virus first identified in Wuhan, Hubei province, China in 2019 as the cause of a cluster of pneumonia cases.[10] Coronaviruses are similar to a number of human and animal pathogens including some of those which

cause the common cold as well as more serious illnesses including severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS). Since discovery, COVID-19 has spread to many countries and was declared a pandemic on January 30, 2020.[11]

Based on currently available evidence, COVID-19 is transmitted via close contact and droplets and is not airborne. However, new evidence is emerging to challenge this.[12] The individuals most at-risk are those in close contact with patients with COVID-19 and includes healthcare professionals. Initially some sources suggested that PPE was not necessary if keeping a distance of one metre or more,(see Footnote 1) however some sources have increased this to two metres in light of more recent evidence regarding the risk of COVID-19 transmission.[13] The MoH Guidelines refers to criteria for providing health workers with PPE in relation to length of exposure as being for more than 15 minutes at a distance of less than 1 metre[14] whilst recommending that the general public maintain a minimum space of two metres between people where possible.[15] Infection prevention and control activities should be engaged in the context of responding to COVID-19 and must include the correct use of personal protective equipment (PPE).[16] Use of PPE is among many common approaches to the management of infectious diseases in health and community settings.

Personal Protective Equipment

The WHO has developed and regularly updates interim guidance for the use of PPE in the context of COVID-19.(see Footnote 1) The United States Centres of Disease Control guidance on the use of PPE appears to largely echo that of the WHO[17] with an exception being the CDC's recommendation for the general public to wear a cloth face mask whenever they leave their home.[18] (It is noted that cloth face coverings are not defined as PPE.) A further difference is the CDC's recommendation that N95 respirator masks are used in preference to surgical masks when caring for patients with confirmed or suspected COVID-19.[19] In this context, PPE includes:

- Gloves
- Medical grade surgical masks (flat, pleated, or 'cup-shaped' surgical or procedure masks)
- Goggles or face shields
- Gowns
- Respirators (N95 or FFP2 standard or equivalent)(see Footnote 1)
- Fluid resistant aprons

WHO guidelines

The WHO has highlighted that the increasing number of COVID-19 cases, misinformation, panic buying, and stock-piling has disrupted supply of many PPE items including surgical masks and respirators with further shortages expected to impact upon gowns and goggles.(see Footnote 1) Appropriate use of PPE and expansion of PPE production is necessary to meet ongoing demand, including PPE use by essential non-health workers. In the United States, Centres of Disease Control guidance has included mention of the use of homemade masks for healthcare professional use in extreme circumstances, but highlights that homemade masks are not substitutable for PPE.[20]

Healthcare staff must have both access to appropriate PPE and receive information and training regarding how to correctly put on, remove, and dispose of PPE. Coveralls, such as those used in the context of infections that are transmitted via bodily fluids (e.g. Ebola) are not required for managing COVID-19 infection. The WHO highlights that PPE is only

effective when adopted within the setting of a range of infection control measures including: (see Footnote 1)

- Administrative controls and measures that ensure resources, access, testing, policies, placement of patients, triage, adequate staff-to-patient ratios, and training.
- Environmental and engineering controls that aim to reduce pathogen spread and contamination of surfaces and objects through ensuring appropriate cleaning, adequate space and human distance, ventilation, and isolation rooms for patients with suspected or confirmed infection.

Evidence reviewed by the Oxford COVID-19 Evidence Service notes that while the available evidence may not relate specifically to the context of COVID-19, high-level evidence cautiously supports the use of standard surgical masks in non-aerosol generating procedures.[21] The report noted that official UK guidance released in February 2020 claimed that both standard and respirator masks provide 80% protection against SARS-CoV-2.[22] However, this claim referenced a 2017 systematic review undertaken before the emergence of SARS-CoV-2 and based largely of trials in seasonal influenza.[23] SARS-CoV-2 is known to be both more contagious and more serious than influenza, and may have different patterns of spread. The empirical studies underpinning this conclusion were not (conducted) in a COVID-19 population and therefore should be applied with caution.

Three key actions are required to ensure optimal access to PPE considering current global shortages: (see Footnote 1)

i. Minimisation of need for PPE use
ii. Appropriate use of PPE
iii. Coordination of PPE supply chain

Minimisation of contact/need for PPE use: The use of PPE can be minimised among healthcare professionals while ensuring protection for healthcare staff and others. Interventions include:

1. Minimise contact and proximity between healthcare staff and patients via activity bundling, provision of continuity of care, and avoidance of unnecessary indirect care.
2. Use of telehealth to evaluate suspected cases of COVID-19.
3. Use of physical barriers between patients and staff (i.e. plastic and glass windows).
4. Prohibit or otherwise restrict visitors' time in areas where patients with confirmed or suspected COVID-19 are being isolated.

Appropriate use of PPE: Incorrect or overuse of PPE impact supply and use should be based on risk of exposure including type of activity and transmission dynamics. Risk assessment should be based on the current case definition. The MoH has published a current case definition which is updated regularly.[24] Details of WHO guidelines for PPE can be found on pages 3-6 via https://apps.who.int/iris/handle/10665/331498.(see Footnote 1)

Coordination of PPE supply chain: Global and national supply of PPE should be coordinated and managed. Interventions include:

1. Use PPE-use forecasts based on rational quantification models to ensure rationalisation of supply.
2. Monitor and control PPE requests from countries and large responders.(see

Footnote 13)

3. Promote centralised request management approaches to minimise duplication and ensure strict adherence to stock management rule to limit wastage, overstock, and stock ruptures.
4. Monitor end-to-end distribution.
5. Monitor and control distribution of PPE from medical facilities stores.

Correct use of PPE: Correct use (putting on, taking off, disposing of) of all PPE must occur for effective and efficient use.[25] Users of PPE including healthcare and auxiliary staff and members of the public including patients must be provided with clear, understandable, and consistent information, training, and supervision on correct use. Correct PPE use must also occur together with proper hand hygiene and personal infection control measures.

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Correspondence to: Margaret.bigsby@nzno.org.nz
Principal author: Margaret Bigsby

Mission statement
NZNO is committed to the representation of members and the promotion of nursing and midwifery. NZNO embraces Te Tiriti o Waitangi and works to improve the health status of all peoples of Aotearoa/ New Zealand through participation in health and social policy development.