

Recommendations for Use of Personal Protective Equipment for Care of Individuals during the COVID-19 Pandemic.

April 9, 2020

Highlights

Recommendations from the WHO are based on two and a half months of global clinical experience; this is regularly reviewed and updated scientific and epidemiological evidence, routes of transmission for COVID-19. As additional evidence emerges this document will be updated and communicated through the EOC as the official channel.

- Droplet and Contact precautions are recommended by the World Health Organization (WHO) for the care of patients with suspected or confirmed COVID-19.
- Airborne precautions should be used when aerosol generating medical procedures (AGMPs) are planned or anticipated to be performed on patients with suspected or confirmed COVID-19.
- Whenever possible, avoid performing AGMPs. If an AGMP is required, minimize the number of staff in the room to as few as possible. Where AGMPs are medically necessary, they should be undertaken in a negative pressure room (if available) with as few staff as possible. If not available, a single room with door closed. All elective aerosol-generating medical procedures (AGMPs), such as dental care, should be postponed until the illness is resolved.
- COVID-19 cases and clusters demonstrate that Droplet/Contact transmission is the routes of transmission.
- The majority of cases are linked to person-to-person transmission through close direct contact with someone who is positive for COVID-19.
- There is no evidence that COVID-19 is transmitted through the airborne route.
- Patients with suspected or confirmed COVID-19 should be cared for in a single room. The use of an AIIR is the recommended standard of care when performing an AGMP (see below). If an AIIR is not available, a single room with the door closed should be used for the procedure. The collection of a nasopharyngeal swab or a throat swab is NOT considered an AGMP.

Aerosol Generating Medical Procedures

Procedures Generating Droplets/Aerosols

- Intubation, extubation and related procedures such as open suctioning and filter changes
- Manual ventilation
- Tracheotomy or tracheostomy procedures (insertion/open suctioning/removal)
- Non-invasive ventilation (NIV) such as Bi-level Positive Airway Pressure (BiPAP) and Continuous Positive Airway Pressure ventilation (CPAP)
- Chest physiotherapy
- Tube or needle thoracotomy
- Cardio-pulmonary resuscitation
- Open airway suctioning
- Bronchoscopy
- Sputum Induction
- Nebulizer treatment
- Some dental procedures (such as high-speed drilling)

Additional Details

- If there is respiratory deterioration, these patients should generally NOT receive non-invasive ventilation (e.g. BiPap, CPAP).
- Aerosolized procedures such as large volume nebulizers for humidity or salbutamol nebulization create what is probably a non-infective aerosol and may minimize patient coughing, and so may be used.
- Avoid sputum inductions.
- If the patient requires intubation, this should be performed by experienced staff. The minimum number of required staff should be present in the room. Generally this will be the nurse, RT, and the physician performing intubation. All staff in the room during the procedure must wear PPE as described for AGMP's. Entry and exit from the room should be minimized during the procedure.
- If situation is emergent and procedures were not adequately followed, document those staff involved and provide list to Supervisor/Manager. Manager will provide notification to the Occupational Health Unit.
- Airborne Precautions must be maintained during that time after the procedures for adequate air exchange and clearance of aerosols.
- Deep Clean of patient room/treatment room must be performed following any AGMP

Personal Protective Equipment (PPE)

The Personal Protective Equipment (PPE) recommendations summarized in the table below are based on the best available evidence and were adapted from the World Health Organization's [Rational Use of Personal Protective Equipment for Coronavirus Disease 2019](#) and the Ontario Provincial Infectious Disease Advisory Committee's [Routine Practices and Additional Precautions](#).

PPE barriers include gloves, gowns, facial protection (including surgical masks and N95 respirators) and/or eye protection (including safety glasses, face shields or masks with visor attachments). The NTHSSA plays a critical role in ensuring HCWs have access to appropriate PPE for the task to be performed and the necessary education and training to ensure competency on the appropriate selection, use and disposal of PPE to prevent exposure to infection. **Use of N95 masks for a task requiring a surgical mask depletes a valuable supply of N95 masks healthcare workers require for AGMPs.**

HCWs should not forget to perform a Point of Care Risk Assessment for patient encounters. **For every patient and/or patient environment encounter, apply the Four Moments for Hand Hygiene**

Setting	Individual	Activity	Type of PPE or procedure
Healthcare Facilities - Inpatient facilities			
Patient room	Healthcare workers	Providing direct care to patients with suspect or confirmed COVID-19	Droplet and Contact precautions, including: <ul style="list-style-type: none"> • Surgical/procedure mask • Isolation gown • Gloves • Eye protection (goggles or face shield)
		Aerosol-generating medical procedures performed on suspect or confirmed COVID-19 patients	Airborne, Droplet and Contact precautions, including: <ul style="list-style-type: none"> • N95 respirator (fit-tested, seal-checked) • Isolation gown • Gloves • Eye protection (goggles or face shield) • Negative pressure room, if available if not private room with door closed
	Environmental service workers	Entering the room of patients with suspected or confirmed COVID-19	Droplet and Contact precautions, including: <ul style="list-style-type: none"> • Surgical/procedure mask • Isolation gown • Gloves • Eye protection (goggles or face shield)
	Visitors	Entering the room of a patient with suspected or confirmed COVID-19 Visitors should be kept to a minimum	Droplet and Contact precautions, including: <ul style="list-style-type: none"> • Surgical/procedure mask • Isolation gown • Gloves • Eye protection (goggles or face shield)

Setting	Individual	Activity	Type of PPE or procedure
Other areas of patient transit (e.g., wards, corridors)	All staff, including healthcare workers	Any activity that does not involve contact with patient suspected or confirmed COVID-19	Routine practices and Additional Precautions based on risk assessment. Choice to wear a facemask.
Triage	Healthcare workers	Preliminary screening not involving direct contact	<p>If able to maintain spatial distance of at least 2 m or separation by physical barrier:</p> <ul style="list-style-type: none"> • No PPE required • Choice to wear facemask <p>Otherwise, droplet and contact precautions, including:</p> <ul style="list-style-type: none"> • Surgical/procedure mask • Isolation gown • Gloves • Eye protection (goggles or face shield)
	Patients suspected or confirmed to have COVID-19	Any	<p>Maintain spatial distance of at least 2 m or separation by physical barrier.</p> <p>Provide surgical/procedure mask if tolerated by patient.</p> <p>Patient to perform hand hygiene.</p>
Administrative areas	All staff, including healthcare workers	Administrative tasks that do not involve contact with patients	<ul style="list-style-type: none"> • No PPE required • Choice to wear a facemask

Setting	Individual	Activity	Type of PPE or procedure
Healthcare Facilities – Ambulatory and outpatient facilities			
Consultation room/area	Healthcare workers	Physical examination of patients with suspected or confirmed COVID-19	<p>Droplet and Contact precautions, including:</p> <ul style="list-style-type: none"> • Surgical/procedure mask • Isolation gown • Gloves • Eye protection (goggles or face shield)

Setting	Individual	Activity	Type of PPE or procedure
	Patients suspected or confirmed to have COVID-19	Any	<ul style="list-style-type: none"> • Provide surgical/procedure mask if tolerated. • Perform hand hygiene
	Environmental service Workers	After and between consultations with patients suspected or confirmed to have COVID-19	Droplet and Contact precautions, including: <ul style="list-style-type: none"> • Surgical/procedure mask • Isolation gown • Gloves • Eye protection (goggles or face shield)
Waiting room	Patients suspected or confirmed to have COVID-19	Any	<ul style="list-style-type: none"> • Provide surgical/ procedure mask if tolerated. • Immediately move the patient to a single patient room or separate area away from others; if this is not feasible, ensure spatial distance of at least 2 m from other patients.
Administrative areas	All staff, including healthcare workers	Administrative tasks that do not involve contact with patients	<ul style="list-style-type: none"> • No PPE required. • Choice to wear a face mask
Triage/Reception	Healthcare workers	Preliminary screening not involving direct contact	If able to maintain spatial distance of at least 2 m or separation by physical barrier: <ul style="list-style-type: none"> • No PPE required • Choice to wear facemask Otherwise, Droplet and Contact precautions, including: <ul style="list-style-type: none"> • Surgical/ procedure mask • Isolation gown • Gloves • Eye protection (goggles or face shield)
	Patients suspected or confirmed to have COVID-19	Any	<ul style="list-style-type: none"> • Maintain spatial distance of at least 2 m or separation by physical barrier. • Provide surgical/procedure mask if tolerated.

Setting	Individual	Activity	Type of PPE or procedure
Other settings			
Home Care	Healthcare worker	Visiting clients/patients with suspected or confirmed COVID-19	Droplet and Contact precautions, including: <ul style="list-style-type: none"> • Surgical/ procedure mask • Isolation gown • Gloves • Eye protection (goggles or face shield)
Long-term care home	Healthcare worker	Providing direct care to suspect or confirmed COVID-19 residents, including nasopharyngeal and oropharyngeal swab collection	Droplet and contact precautions, including: <ul style="list-style-type: none"> • Surgical/ procedure mask • Isolation gown • Gloves • Eye protection (goggles or face shield)
	Healthcare worker	Providing CPAP and/or open suctioning to suspect or confirmed COVID-19 resident.	Droplet and Contact precautions using a N95 respirator when providing CPAP. Manage in single room with door closed. Keep the number of people in the room during the procedure to a minimum.
	Environmental service workers	When entering the room of a resident suspected or confirmed to have COVID-19	Droplet and contact precautions, including: <ul style="list-style-type: none"> • Surgical/ procedure mask • Isolation gown • Gloves • Eye protection (goggles or face shield)
	Administrative areas	Administrative tasks that do not involve contact with resident suspected or confirmed to have COVID-19	<ul style="list-style-type: none"> • No PPE required • Choice to wear facemask
	Visitors	Entering the room of a suspect or confirmed COVID-19 resident Should be kept to a minimum	Droplet and contact precautions, including: <ul style="list-style-type: none"> • Surgical/ procedure mask • Isolation gown • Gloves • Eye protection (goggles or face shield)

References

These recommendations were adapted from the Public Health Ontario document released March 12, 2020: <https://www.publichealthontario.ca/-/media/documents/ncov/updated-ipac-measures-covid-19.pdf?la=en>

Government of Canada: <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/health-professionals/interim-guidance-acute-healthcare-settings.html>

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