
 POLICY WRH Universal (WRU)	Document Title: COVID-19 Universal Precautions		Policy Number: IPAC-U-133	
	Department: Infection Prevention and Control (IPAC)			Page 1 of 14
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COVID-19 Universal Precautions

Contents

POLICY:	2
PURPOSE:	2
SCOPE:	2
DEFINITIONS:	2
PROCESS:	3
1. RISK ASSESSMENT	3
2. PERSONAL PROTECTIVE EQUIPMENT	3
2.1 Universal Personal Protective Equipment (PPE) for Hospital Staff, Professional Staff and Learners	3
2.2 Universal Personal Protective Equipment (PPE) for Visitors	4
2.3 Personal Protective Equipment for Patients	4
2.4 Exceptions to PPE for Patients	5
2.5 Appropriate Mask and Respirator Use	5
2.6 Appropriate Eye protection Use	6
2.7 Cleaning and Disinfection of Eye Goggles or Face Shield	6
2.8 Extended Use Strategies	6
2.9 Masks and Respirators	6
2.10 Eye Protection	6
3. ACCOMMODATION	7
4. COHORTING PATIENTS IN ENHANCED DROPLET AND CONTACT PRECAUTIONS	7
5. ENVIRONMENTAL CLEANING	7
6. AIRBORNE CONTAMINANT REMOVAL	8
Table 1. Air changes/hour (ACH) and time required for airborne-contaminant removal by efficiency	8
7. PATIENT CARE EQUIPMENT	8
8. TRANSPORT	9
9. PATIENT MOBILITY	9
10. VISITORS	9
References:	10
APPENDIX A – RISK ASSESSMENT AND APPROPRIATE USE OF PERSONAL PROTECTIVE EQUIPMENT (PPE)	12
APPENDIX B - AEROSOL-GENERATING MEDICAL PROCEDURES (AGMP)	14

 <p>POLICY</p> <p>WRH Universal (WRU)</p>	<p>Document Title: COVID-19 Universal Precautions</p> <p>Department: Infection Prevention and Control (IPAC)</p>		<p>Policy Number: IPAC-U-133</p> <p>Page 2 of 14</p>
	<p>Author: E. Vitale, Infection Prevention and Control Director</p>	<p>Authorized By: Karen Riddell, CNE Dr. Wassim Saad, Chief of Staff David Musyj, CEO</p>	<p>Last Revised Date: 02/11/2021 Next Review Date: 10/01/2021 Origination Date: 8/31/2020</p>

POLICY:

Universal Personal Protective Equipment (PPE) practices are based on the premise that **all patients are potentially infectious with COVID-19**, even when asymptomatic, and that the **same safe standards of practice should be used routinely with all patients to prevent exposure** and the spread of COVID-19 through respiratory droplets / secretions of patients, visitors, and staff.

Enhanced Droplet and Contact Precautions are to be used by all Windsor Regional Hospital (WRH) staff in addition to Routine Practices for ALL patients.

Healthcare providers must assess the additional risk of exposure to COVID-19, duration of exposure, how close contact with the patient will be, and the type of procedures being performed, and identify the strategies that will decrease exposure risk and prevent the transmission of microorganisms. This may include the application of an N95 in place of a procedure / surgical mask.

PURPOSE:

To outline the universal PPE practices, and additional precautions, to be used with all patients receiving care at Windsor Regional Hospital (WRH) at all times, regardless of diagnosis, and regardless of Additional Precautions in place, during the COVID-19 pandemic.

SCOPE:

This policy applies to all WRH staff, professional staff, volunteers, learners, and visitors at all times and to all patients as tolerated.

DEFINITIONS:

Aerosol: Small droplet of moisture that may carry microorganisms. Aerosols may be light enough to remain suspended in the air for short periods of time, allowing inhalation of the microorganism.

Aerosol Generating Medical Procedure (AGMP): procedures that may generate droplets/aerosols that may expose staff to respiratory pathogens and are considered to be a potential risk for staff and others in the area. These procedures artificially manipulate the airway and secretions therein. If an infection is present in the airway the procedure would agitate and dramatically increase the aerosols generated. The operator (such as during intubation) is in very close proximity to the airway and especially if the procedure is complicated or lengthy. PPE (mask and either protective eyewear or face shield) must be used by staff when within two metres of procedures generating droplets/aerosols on any patient, with or without symptoms of an acute respiratory infection, to prevent deposition of droplets/aerosols on staff mucous membranes. For COVID-19 the facial PPE required for AGMP is an N95 respirator and protective eyewear or face shield. Refer to Appendix A for a list of common AGMP.


The medical procedures that are listed as AGMPs are supported by epidemiological data that indicate these procedures may significantly increase risk of infection to health care workers within close range of the procedure and thus N95 respirators are required as a minimum level of respiratory protective equipment (as well as eye protection).

Contact transmission: Contact transmission is the most common route of transmission of infectious agents. There are two types of contact transmission:

- **Direct contact** occurs through touching
 - e.g. an individual may transmit microorganisms to others by touching them
- **Indirect contact** occurs when microorganisms are transferred via contaminated objects
 - e.g. *C. difficile* might be transferred between patients, if a commode used by a patient with *C. difficile* is taken to another patient without cleaning and disinfecting the commode in between uses.

Droplet Transmission: Droplet transmission occurs when droplets carrying an infectious agent exit the respiratory tract of a person. Droplets can be generated when talking, coughing or sneezing and through some procedures performed

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 <p>POLICY</p> <p>WRH Universal (WRU)</p>	<p>Document Title: COVID-19 Universal Precautions</p> <p>Department: Infection Prevention and Control (IPAC)</p>		<p>Policy Number: IPAC-U-133</p> <p>Page 3 of 14</p>
	<p>Author: E. Vitale, Infection Prevention and Control Director</p>	<p>Authorized By: Karen Riddell, CNE Dr. Wassim Saad, Chief of Staff David Musyj, CEO</p>	<p>Last Revised Date: 02/11/2021 Next Review Date: 10/01/2021 Origination Date: 8/31/2020</p>

on the respiratory tract (like suctioning, bronchoscopy or nebulized therapies). **Droplets do not remain suspended in the air, usually travel less than two metres** and may enter the host's eyes, nose or mouth or fall onto surfaces. Microorganisms contained in these droplets are then deposited on surfaces in the patient's immediate environment and some microorganisms can remain viable for extended periods of time. Contact transmission can then occur by touching surfaces and objects contaminated with respiratory droplets.

Facial Protection: Personal protective equipment that protect the mucous membranes of the eyes, nose and mouth from splashes or sprays of blood, body fluids, secretions or excretions. Facial protection may include a mask or respirator in conjunction with eye protection, or a face shield that covers eyes, nose and mouth.

Learners: Those students who are part of a formal rotation and/or elective at WRH, in accordance with an executed affiliation agreement.

N95 Respirator: A personal protective device that is worn on the face and covers the nose and mouth to reduce the wearer's risk of inhaling airborne particles. A NIOSH-certified N95 respirator filters particles one micron in size, has 95% filter efficiency and provides a tight facial seal with less than 10% leak.

Patient: An individual accessing inpatient or outpatient health services.

Professional Staff: Those physicians, midwives, dentists and extended class nursing who are privileged in accordance with the Professional staff Bylaw.

Visitor: A guest of the patient. At this time, only designated visitors are allowed.

PROCESS:

During the COVID-19 pandemic modifications to [Routine Practices](#) are required to ensure the safety of all patients, visitors and staff. While typically the need for a mask and eye protection is determined based on risk assessment, the COVID-19 pandemic has required source control, as well as, universal protection from respiratory droplets.

All WRH staff are responsible for following the practice guidelines below for universal PPE, and Enhanced Droplet and Contact Precautions during the COVID-19 Pandemic. Compliance is monitored by the unit Managers and Directors, and the Infection Prevention and Control (IPAC) Department, and reported to the Program Directors.

Enhanced Droplet and Contact Precautions are always in addition to Routine Practices, and may be combined with or Airborne Precautions (depending on the type of known or suspected infection).

Hand hygiene is the best way for staff to prevent the spread of any microorganism in the healthcare environment. **Always ensure hand hygiene is performed by the patient on leaving his/her room, and on presentation and departure from an ambulatory setting.** Refer to Hand Hygiene Policy for more information.

1. RISK ASSESSMENT

A risk assessment must be done **before each interaction with a patient or their environment** in order to determine which interventions are required to prevent transmission during the interaction because the **patient's status can change**. Refer to [Appendix A](#) Point of Care Risk Assessment for Routine Practices Algorithm.


2. PERSONAL PROTECTIVE EQUIPMENT

2.1 Universal Personal Protective Equipment (PPE) for Hospital Staff, Professional Staff and Learners

All staff, professional staff and learners are required to wear a **mask** while in all public spaces of the hospital, and any time that a 2 meter spatial separation cannot be maintained. All staff, professional staff and learners are required to wear eye protection while in all public spaces of the hospital.

All staff, professional staff and learners are required to wear **eye protection** for all patient contact. The eye protection is to be donned on entry to the patient's room or bedspace, or when within 2 meters of any patient (i.e. in hallway, or elevator, etc.).

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 <p>POLICY</p> <p>WRH Universal (WRU)</p>	Document Title: COVID-19 Universal Precautions		Policy Number: IPAC-U-133
	Department: Infection Prevention and Control (IPAC)		Page 4 of 14
	Author: E. Vitale, Infection Prevention and Control Director	Authorized By: Karen Riddell, CNE Dr. Wassim Saad, Chief of Staff David Musyj, CEO	Last Revised Date: 02/11/2021 Next Review Date: 10/01/2021 Origination Date: 8/31/2020

All staff, professional staff and learners are advised to keep their eye protection on as much as possible, upon entry to the facility. Removal of eye protection for eating, and drinking, or to clear fog, or for comfort at times must be done when physically separated from others by 2 meters minimum.

Masks and eye protection protect the healthcare worker’s mucous membranes of the eyes, nose and mouth from any respiratory droplets expelled by patients. Face shields serve as a solid barrier that can protect a mask or N95 respirator from becoming surface contamination to ensure that there is less chance of inadvertent self-contamination during N95 respirator removal. Face shields are recommended for AGMP in addition to an N95 respirator.

Masks also act as a means of source control - protecting others in close proximity to the wearer by preventing the spread of bacteria and viruses to others.

When a mask and eye protection is worn by the healthcare provider with all patients then the risk of exposure to COVID-19 should a patient later test positive is low regardless of the type of contact, and only routine self-monitoring is required.

All staff must use medical grade masks.

Due to the potential for variant strains that are more easily transmitted, a face shield and N95 respirator is recommended in the following situations:

1. All care activities for confirmed COVID-19 patients expected to last for 15 minutes or greater*.
2. All care activities for patients that are highly suspect for COVID-19 (e.g. recent travel to an affected area, contact with an ill person that has travelled to an affected area, a high risk contact of a COVID-19 case, etc.) expected to last 15 minutes or greater*.
3. All patients (regardless of COVID-19 status, and duration of procedure) that are having aerosol generating medical procedures (AGMP) performed. Note that the N95 must be discarded and a new N95 respirator applied following an AGMP, and when it is safe to do so (i.e. outside patient care environment, and 2 meter spatially separated from others).

**If the duration of care activities is unknown then the healthcare worker shall don an N95 for any care activity. For brief encounters, such as performing a visual check, dropping off medication, dropping off or picking up a meal tray, or speaking to the patient from the doorway, a N95 is not required as the mode of transmission for COVID-19 has not changed from the Droplet and Contact route.*

2.2 Universal Personal Protective Equipment (PPE) for Visitors

All visitors must wear a mask and eye protection in all areas of the hospital. If visitors are wearing a cloth mask or face covering on entry to the facility, they must remove it, and don a medical grade mask. They may place the cloth mask on top of the medical mask if they choose (see below).

2.3 Personal Protective Equipment for Patients


All out-patients must wear a mask in all areas of the hospital. All inpatients must wear a medical grade mask when leaving their room or bed-space (i.e. for a diagnostic test), when in a common area of the hospital. Patients may choose to follow [CDC recommendations](#) based on recent in-vitro studies, and wear their cloth mask over the medical mask to reduce the chances of gaps at the sides, should the medical mask not be close-fitting on their face.

An inpatient should be given a medical mask to wear, if able, when a staff member cannot maintain the 2 meter distance and the staff is performing care. It is everyone’s responsibility to work together to ensure that when working on/with a patient, the patient has a mask. The use of a mask for patients during care is to prevent potential exposure to a healthcare worker who may be asymptomatic and unknowingly infected with COVID-19.

Dialysis and cancer center patients shall be provided eye protection and asked to wear it during treatments when they have contact with health care providers.

For patients in the emergency room, and those that are undergoing out-patient procedures (e.g. diagnostic imaging, day surgery) eye protection shall be offered and encouraged. Exposure investigation and follow up will be conducted in the event that a health care worker tests positive for COVID-19.

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 <p>POLICY</p> <p>WRH Universal (WRU)</p>	<p>Document Title: COVID-19 Universal Precautions</p> <p>Department: Infection Prevention and Control (IPAC)</p>		<p>Policy Number: IPAC-U-133</p> <p>Page 5 of 14</p>
	<p>Author: E. Vitale, Infection Prevention and Control Director</p>	<p>Authorized By: Karen Riddell, CNE Dr. Wassim Saad, Chief of Staff David Musyj, CEO</p>	<p>Last Revised Date: 02/11/2021 Next Review Date: 10/01/2021 Origination Date: 8/31/2020</p>

If any patient cannot tolerate a mask, or eye protection, due to a medical condition, then staff must proceed with care, as all staff interacting with the patient are protected by wearing a mask and eye protection.

2.4 Exceptions to PPE for Patients

Exceptions to universal masking, and eye protection, for patients and visitors are:

1. Children under the age of two years.
2. Children under the age of five years (either chronologically or developmentally) who refuse to wear a face covering and cannot be persuaded to do so by their caregiver.
3. Visitors who have medical conditions that preclude the use of masks and face shields for extended periods of time **must provide medical documentation of such condition**. Visitors with **proof of medical conditions** that preclude the use of masks must wear a face shield while in the hospital. If a visitor has a medical condition that prevents them from wearing masks, then, for their own safety, they cannot visit patients.
4. At the time of booking all outpatient appointments the universal PPE requirements of this policy must be reviewed. If a patient has a medical condition that precludes the use of masks **and a face shield**, the case is to be reviewed with the MRP at the time of booking to determine if the procedure can be postponed or cancelled. If the MRP determines that the procedure is required, then the booking office must notify the screening stations of the individuals in advance of the appointment. Out patients arriving for an appointment who have medical conditions that preclude the use of masks, and eye protection, for extended periods of time **must provide medical documentation of such condition**. Patients with **proof of medical conditions** that preclude the use of masks must wear a face shield while in the hospital. If a patient provides medical documentation indicating that they cannot wear a mask or eye protection, and must attend their appointment due to medical necessity (as determined by the MRP), then an IPAC RL6 risk report must be completed under the “**Patient Exposure – Communicable Disease**” category in order to allow for proper contact tracing should a healthcare provider that they patient has come in contact with develop COVID-19 infection.

WRH has the right to decline its service when there is a refusal to comply with the universal PPE policy, however the balance of the objectives of this policy and any appropriate exceptions or accommodations which may be employed must be considered when there is a critical need for patients to receive care.

2.5 Appropriate Mask and Respirator Use


- Select a mask or respirator appropriate to the activity.
- **Masks must securely cover the nose and mouth.**
- Perform a seal check with your respirator before use.
- Change mask/respirator if it becomes wet.
- Do not touch mask/respirator while wearing it.
- Do not allow mask/respirator to hang or dangle around the neck.
- Clean hands after removing the mask/respirator.
- Do not replace disposable masks/respirators between patient encounters – instead **extend the use** by wearing it for multiple patient encounters until it becomes wet, contaminated, damaged, difficult to breathe, at break times, or following an AGMP.
- Do not fold the mask/ N95 respirator or put it in a pocket for later use.
- **DO NOT RE-USE MASKS OR N95 RESPIRATORS.** Once removed discard the mask/respirator.

The purpose of masks is to keep respiratory droplets from reaching others to aid with source control. Masks with one-way valves or vents allow exhaled air to be expelled out through holes in the material. This can allow exhaled respiratory droplets to reach others and potentially spread the COVID-19 virus. Therefore, **masks or N95 respirators with an exhalation valves or vents are prohibited for use as a means of source control.**

Refer to the Occupational Health and Safety [Respiratory Protection Program](#) policy and for information related to reusable respirators.

There is currently no evidence to support the use of a surgical/procedural mask in addition to an N95 (i.e. mask over N95) to prevent contamination of the N95. The use of a face shield protects the mask and N95 from contamination, and when used in combination will reduce the number of masks used to help conserve supply.

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 <p>POLICY</p> <p>WRH Universal (WRU)</p>	<p>Document Title: COVID-19 Universal Precautions</p> <p>Department: Infection Prevention and Control (IPAC)</p>		<p>Policy Number: IPAC-U-133</p> <p>Page 6 of 14</p>
	<p>Author: E. Vitale, Infection Prevention and Control Director</p>	<p>Authorized By: Karen Riddell, CNE Dr. Wassim Saad, Chief of Staff David Musyj, CEO</p>	<p>Last Revised Date: 02/11/2021 Next Review Date: 10/01/2021 Origination Date: 8/31/2020</p>

2.6 Appropriate Eye protection Use

- Eye protection should be used whenever there is a potential for splashes or sprays to the eyes, such as operating room procedures, labour and delivery and wound irrigation.
- Eye protection may be worn throughout the unit for multiple patient encounters until it becomes contaminated.
- Eye protection should fit close to the skin and have minimal gaps between the face and the frame. Eye protection should not allow droplets to reach the eyes.
- Prescription eye glasses are not acceptable as eye protection.

2.7 Cleaning and Disinfection of Eye Goggles or Face Shield

1. Remove gloves and gown.
2. Clean hands.
3. Remove goggles/face shield from the face by only touching the sides, straps or back after leaving the patient room.
4. Place item on available surface.
5. Remove mask or respirator.
6. Perform hand hygiene and don clean gloves.
7. Obtain hospital approved disinfectant wipe (e.g. Cavi-1, Clorox Bleach, or Clorox Hydrogen peroxide).
8. Inspect goggles or face shield for damage.
9. If damaged, dispose of in regular garbage.
10. If not damaged, wipe down the entire item thoroughly. Allow to stay wet with disinfectant for the required contact time (refer manufacturer instructions).
11. Allow to air dry.
12. Using the same disinfectant wipe, if still wet, disinfect the surface that the item was placed on while removing remaining PPE.
13. Store for next use. Depending on supply may be used shift to shift and day to day.

2.8 Extended Use Strategies

Always take care when removing PPE as this is when self-contamination may occur.

Masks and Respirators

- **Wear the same mask / N95 respirator for repeated close contact encounters** with several different patients, without removing the facemask between patient encounters.
 - Removed and discard if **wet, contaminated, damaged, hard to breathe through**, at break times, or following an AGMP.
- Take care not to touch facemask - if touched or adjusted clean hands immediately.
- Leave the patient care area when you must remove your mask or N95 respirator.

If supply becomes an issue:


- Restrict the use of medical grade facemasks to healthcare workers, rather than patients for source control
- Have patients with symptoms of respiratory infection use tissues or other barriers to cover their mouth and nose

Extended use of N95 respirators following an AGMP is not recommended. N95 respirators that have been worn during AGMP must be removed, and discarded when it is safe to do so.

Eye Protection

- **Wear the same eye protection for repeated close contact encounters** with several different patients, without removing eye protection between patient encounters. This can be applied to disposable and reusable devices.
- Dedicate to individual healthcare providers.
- **Eye protection be removed and/or reprocessed** when visibly soiled or difficult to see through.
- Disinfect with hospital grade disinfectant wipe before reusing.

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 <p>POLICY</p> <p>WRH Universal (WRU)</p>	Document Title: COVID-19 Universal Precautions		Policy Number: IPAC-U-133	
	Department: Infection Prevention and Control (IPAC)			Page 7 of 14
	Author: E. Vitale, Infection Prevention and Control Director	Authorized By: Karen Riddell, CNE Dr. Wassim Saad, Chief of Staff David Musyj, CEO	Last Revised Date: 02/11/2021 Next Review Date: 10/01/2021 Origination Date: 8/31/2020	

- Discard if damaged.
- Do not touch front of eye protection – if touched or adjusted clean hands immediately.
- Leave patient environment, and maintain 2 meter spatial separation, if eye protection must be removed.

3. ACCOMMODATION

The required accommodation for Enhanced Droplet and Contact Precautions in acute care is a **single room with a dedicated toilet and patient sink**, and the door may remain open unless there is an AGMP in process.

Signage indicating the type of Additional Precautions in place must be posted on the door and visible to all staff that may enter the room.

When patient flow is delayed, patient safety is at risk or patient care is compromised, an asymptomatic rule out COVID-19, and may be cohorted if required for capacity. Director/VP or After Hours Administrator to approve (refer to policy on COVID-19).

The same principles of Enhanced Droplet and Contact Precautions apply on the occasion when Enhanced Droplet and Contact Precautions must be used with a single patient in a semi-private room (preferred over a ward), when single rooms are not immediately available (subject to Director approval). The term cubicle is often used to refer to the patient's bed space or area within the curtain. To temporarily manage Enhanced Droplet and Contact Precautions in a semi-private or ward room:

1. Completely close the curtain around the patient in Enhanced Droplet and Contact Precautions. Place appropriate sign on the curtain and the door.
2. Do not allow the patient in Enhanced Droplet and Contact Precautions to share toileting facilities or any other equipment with any other patients who may not be in Additional Precautions (i.e. dedicate equipment).
3. Educate the patient and their roommate(s) about the Additional Precautions being used and why.

4. COHORTING PATIENTS IN ENHANCED DROPLET AND CONTACT PRECAUTIONS

Patients may be cohorted while in **Enhanced Droplet and Contact Precautions** when:

- 2 negative COVID-19 tests in an asymptomatic suspected COVID-19 patient admitted from home, a long term care, rest home or other congregate setting, with no high risk exposure or exposure to an outbreak.

Do not cohort Enhanced Droplet and Contact Precautions when the patient has had a high risk exposure:

- patient has had close contact with anyone who has travelled outside of Canada in the past 14 days
- patient is a confirmed case of COVID-19 or had close contact with a confirmed case of COVID-19
- patient is from a facility currently under a COVID-19 outbreak (or a respiratory outbreak with unknown agent)
- **Consult MRP and Infection Prevention and Control when a patient has a high risk exposure**


For COVID-19 confirmed cases, and symptomatic patients, IPAC must be consulted prior to cohorting.

If there is any concern regarding the discontinuation, then the higher level of precautions must remain in effect (i.e. patient is not to be cohorted), and IPAC must be consulted.

5. ENVIRONMENTAL CLEANING

Routine cleaning of the environment and equipment is sufficient for Enhanced Droplet and Contact Precautions, this includes following an AGMP.

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 <p>POLICY</p> <p>WRH Universal (WRU)</p>	Document Title: COVID-19 Universal Precautions		Policy Number: IPAC-U-133	
	Department: Infection Prevention and Control (IPAC)			Page 8 of 14
	Author: E. Vitale, Infection Prevention and Control Director	Authorized By: Karen Riddell, CNE Dr. Wassim Saad, Chief of Staff David Musyj, CEO	Last Revised Date: 02/11/2021 Next Review Date: 10/01/2021 Origination Date: 8/31/2020	

6. AIRBORNE CONTAMINANT REMOVAL

Following an AGMP there is a possibility that aerosols from the patient may remain in the air until sufficient air changes have occurred to remove any airborne contaminants from the air. To err on the side of caution and to ensure the highest level of protection of staff and patients, the room that housed a patient during an AGMP should have the doors kept closed and staff should allow sufficient time to pass to remove 99% of airborne contaminants prior to allowing the next patient into the room.

Staff may enter the room with the appropriate PPE (i.e. N95 respirator recommended) before the time is up.

If the patient must be removed from the room for medical necessity then the patient may be removed from the room. The hallway does not have to sit for any period of time as it would be considered low risk as the AGMP was not performed in the hallway.

Because how long a room should sit to sufficiently remove airborne contaminants depends the air changes per hour (ACH), and each room varies in their ACH the standard times used at WRH are **45 minutes for a regular room**, and **15 minutes for the Operating Rooms**. If the ACH is known for the room in question then the time to remove 99% of contaminants can be adjusted based on the information in Table 1 below.

Table 1. Air changes/hour (ACH) and time required for airborne-contaminant removal by efficiency

ACH § ¶	Time (mins.) required for removal: 99% efficiency	Time (mins.) required for removal: 99.9% efficiency
2	138	207
4	69	104
6+	46	69
8	35	52
10+	28	41
12+	23	35
15+	18	28
20	14	21
50	6	8

+ Denotes frequently cited ACH for patient-care areas.

§ Values were derived from the formula:

$$t_2 - t_1 = - [\ln (C_2 / C_1) / (Q / V)] \times 60, \text{ with } t_1 = 0$$

where:

t1 = initial timepoint in minutes

t2 = final timepoint in minutes

C1 = initial concentration of contaminant

C2 = final concentration of contaminant

C2 / C1 = 1 – (removal efficiency / 100)

Q = air flow rate in cubic feet/hour

V = room volume in cubic feet


Q / V = ACH

¶ Values apply to an empty room with no aerosol-generating source. With a person present and generating aerosol, this table would not apply. Other equations are available that include a constant generating source. However, certain diseases (e.g., infectious tuberculosis) are not likely to be aerosolized at a constant rate. The times given assume perfect mixing of the air within the space (i.e., mixing factor = 1). However, perfect mixing usually does not occur. Removal times will be longer in rooms or areas with imperfect mixing or air stagnation.213 Caution should be exercised in using this table in such situations. For booths or other local ventilation enclosures, manufacturers' instructions should be consulted.

7. PATIENT CARE EQUIPMENT

Use dedicated equipment if possible. Shared equipment should always be cleaned and disinfected between patients.

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 <p>POLICY</p> <p>WRH Universal (WRU)</p>	Document Title: COVID-19 Universal Precautions		Policy Number: IPAC-U-133	
	Department: Infection Prevention and Control (IPAC)			Page 9 of 14
	Author: E. Vitale, Infection Prevention and Control Director	Authorized By: Karen Riddell, CNE Dr. Wassim Saad, Chief of Staff David Musyj, CEO	Last Revised Date: 02/11/2021 Next Review Date: 10/01/2021 Origination Date: 8/31/2020	

8. TRANSPORT

In most cases, transport should be limited unless required for diagnostic or medically necessary procedures. The patient must wear a mask during transport, if tolerated. **Ambulatory patients that can walk safely to their destination are encouraged to walk.**

Procedure for transport:

1. **All staff involved in transport of the patient shall wear mask and eye protection for all patient transport.**
2. Check with the unit clerk that the receiving area is aware that the patient is in **Enhanced Droplet and Contact Precautions.**
3. Ensure patient is wearing a mask, and instruct the patient on proper cough etiquette during transport.
4. Use disinfectant wipes to clean areas on wheelchair or stretcher that will have contact with your hands.
5. Perform hand hygiene, and encourage / assist patient to perform hand hygiene.
6. Place clean sheet over patient.
7. Place patient's chart on top of clean sheet. All medications / equipment that must be transported with the patient must be cleaned and disinfected or placed in a plastic bag.
8. Transport patient.
9. Ensure receiving unit is aware that the patient has arrived, and requires **Enhanced Droplet and Contact Precautions.**
10. Clean equipment used to transport the patient with disinfectant wipes when the transport is complete.
11. Perform hand hygiene.

Note: If the patient cannot tolerate a mask, the transport staff must reduce exposure to others during transport (i.e. avoid high traffic areas and other patients by ensuring the corridors are as clear as possible and all persons should be asked to exit the elevator prior to use by the patient in Enhanced Droplet and Contact Precautions).

9. PATIENT MOBILITY


Symptomatic patients in Enhanced Droplet and Contact Precautions must remain in their room or bed space unless required for diagnostic and therapeutic procedures, or ambulation, until they are no longer considered infectious. A mask must be worn by the patient when leaving their room / bed space. As per Routine Practice, any equipment leaving with them (e.g. wheelchair, IV pole) should be cleaned and disinfected.

10. VISITORS

Patients in Enhanced Droplet and Contacts Precautions due to known or suspected COVID-19 infection (i.e. symptomatic) are not permitted to have visitors.

If there are extenuating circumstances, contact the Patient Representative at the respective campus for further assessment.


Please refer to the [Visitation Policy](#).

 <p>POLICY</p> <p>WRH Universal (WRU)</p>	Document Title: COVID-19 Universal Precautions		Policy Number: IPAC-U-133
	Department: Infection Prevention and Control (IPAC)		Page 10 of 14
	Author: E. Vitale, Infection Prevention and Control Director	Authorized By: Karen Riddell, CNE Dr. Wassim Saad, Chief of Staff David Musyj, CEO	Last Revised Date: 02/11/2021 Next Review Date: 10/01/2021 Origination Date: 8/31/2020

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 <p>POLICY</p> <p>WRH Universal (WRU)</p>	Document Title: COVID-19 Universal Precautions		Policy Number: IPAC-U-133	
	Department: Infection Prevention and Control (IPAC)			Page 11 of 14
	Author: E. Vitale, Infection Prevention and Control Director	Authorized By: Karen Riddell, CNE Dr. Wassim Saad, Chief of Staff David Musyj, CEO	Last Revised Date: 02/11/2021 Next Review Date: 10/01/2021 Origination Date: 8/31/2020	

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 <p>POLICY</p> <p>WRH Universal (WRU)</p>	<p>Document Title: COVID-19 Universal Precautions</p>	<p>Policy Number: IPAC-U-133</p>
	<p>Department: Infection Prevention and Control (IPAC)</p>	<p>Page 12 of 14</p>
	<p>Author: E. Vitale, Infection Prevention and Control Director</p>	<p>Authorized By: Karen Riddell, CNE Dr. Wassim Saad, Chief of Staff David Musyj, CEO</p>

APPENDIX A – RISK ASSESSMENT AND APPROPRIATE USE OF PERSONAL PROTECTIVE EQUIPMENT (PPE)

****An N95 respirator may also be donned based on recommendations above, and when staff assess risks and deems N95 necessary based on their assessment.****

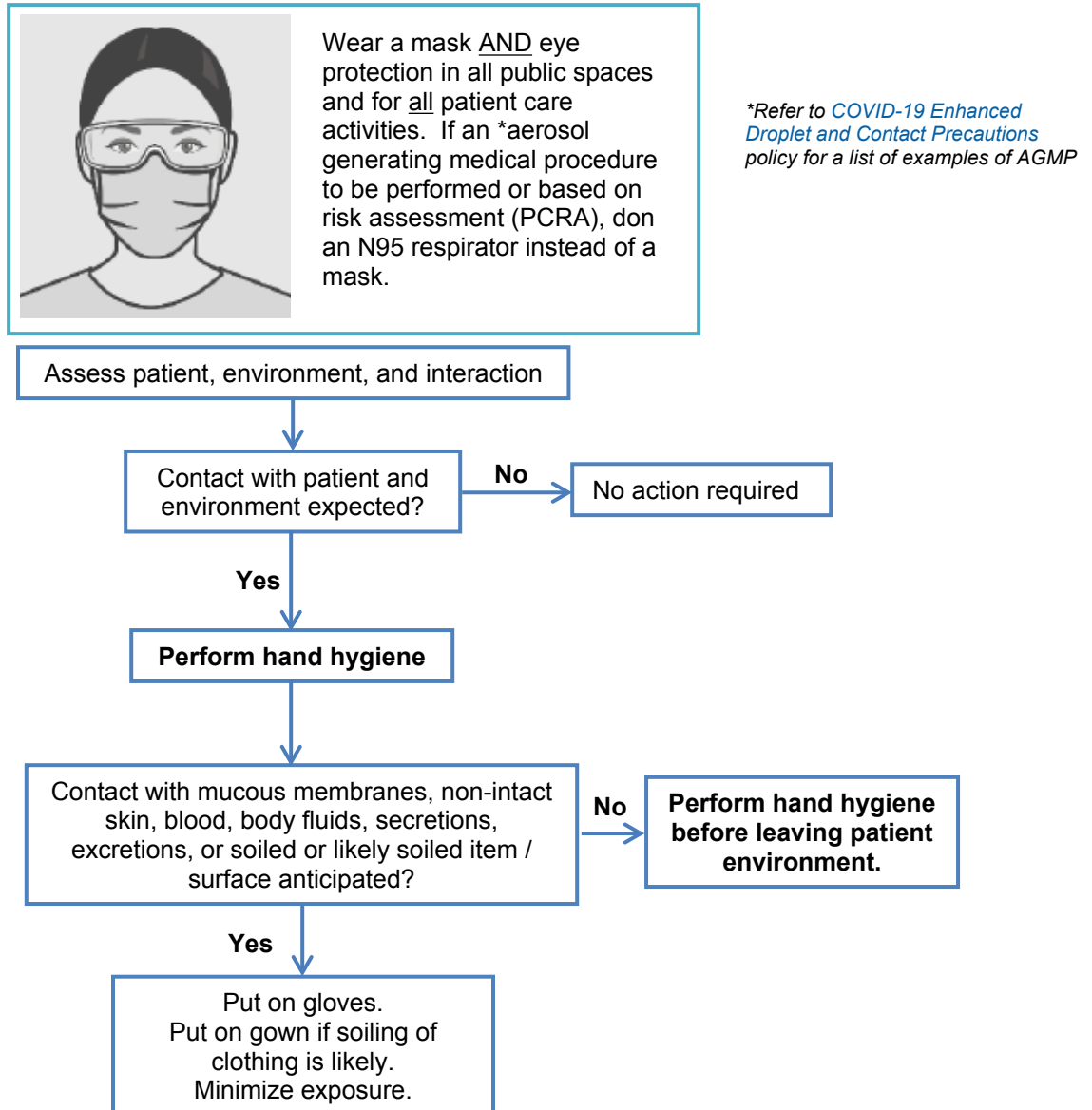
This algorithm sets out minimum PPE requirements. For all suspect and confirmed COVID-19 patients droplet contact precautions are required.


This point of care risk assessment applies to all patients at all times in all healthcare settings, when contact with the patient or patient’s environment is expected. Pursuant to Directive #5 for Hospitals within the meaning of the Public Hospitals Act and Long-Term Care Homes within the meaning of the Long-Term Care Homes Act, 2007

Issued under Section 77.7 of the Health Protection and Promotion Act (HPPA), R.S.O. 1990, c. H.7

http://www.health.gov.on.ca/en/pro/programs/publichealth/coronavirus/docs/directives/public_hospitals_act.pdf

Use in addition to Additional Precautions if the patient has already been placed in Additional Precautions.



 <p>POLICY</p> <p>WRH Universal (WRU)</p>	Document Title: COVID-19 Universal Precautions		Policy Number: IPAC-U-133	
	Department: Infection Prevention and Control (IPAC)			Page 13 of 14
	Author: E. Vitale, Infection Prevention and Control Director	Authorized By: Karen Riddell, CNE Dr. Wassim Saad, Chief of Staff David Musyj, CEO	Last Revised Date: 02/11/2021 Next Review Date: 10/01/2021 Origination Date: 8/31/2020	


Pursuant to [Directive #5](#) for Hospitals:

A point-of-care risk assessment (PCRA) must be performed by every health care worker before every patient or resident interaction in a public hospital or long-term care home. **That is the health care worker’s individual subjective PCRA.**

If a health care worker determines, based on the PCRA, and based on their professional and clinical judgement, that health and safety measures may be required in the delivery of care to the patient then the hospital must provide that health care worker with access to the appropriate health and safety control measures, including an N95 respirator. **This is the health care worker’s decision to make.**

At a minimum, for health care workers and other employees in a hospital, contact and droplet precautions must be used by health care workers and other employees for all interactions with suspected, presumed or confirmed COVID-19 patients or residents. Contact and droplet precautions includes gloves, face shields or goggles, gowns, and surgical/procedure masks. All health care workers or other employees who are within two metres of suspected, presumed or confirmed COVID-19 patients or residents shall have access to appropriate PPE. This will include access to: surgical/procedure masks, fit tested NIOSH-approved N-95 respirators or approved equivalent or better protection, gloves, face shields with side protection (or goggles) and appropriate isolation gowns. As noted in the above policy, WRH recommends an N95 for prolonged contact with confirmed and suspect COVID-19, as well as for any AGMP (regardless of the COVID-19 status of the patient).

The PCRA by the health care worker should include the frequency and probability of routine or emergent Aerosol Generating Medical Procedures (AGMPs) being required. N95 respirators, or approved equivalent or better protection, must be used by all health care workers in the room where AGMPs are being performed, are frequent or probable. For a list of AGMPs please refer to [Appendix B](#).

 <p>POLICY</p> <p>WRH Universal (WRU)</p>	<p>Document Title: COVID-19 Universal Precautions</p>	<p>Policy Number: IPAC-U-133</p>
	<p>Department: Infection Prevention and Control (IPAC)</p>	<p>Page 14 of 14</p>
<p>Author: E. Vitale, Infection Prevention and Control Director</p>	<p>Authorized By: Karen Riddell, CNE Dr. Wassim Saad, Chief of Staff David Musyj, CEO</p>	<p>Last Revised Date: 02/11/2021 Next Review Date: 10/01/2021 Origination Date: 8/31/2020</p>

APPENDIX B - AEROSOL-GENERATING MEDICAL PROCEDURES (AGMP)

Adapted from the Toronto Region Hospital Operations Committee IPAC Consensus List of Aerosol-Generating Medical Procedures (AGMP)

Aerosol-Generating Medical Procedures

- Intubation
- Extubation
- Cardio Pulmonary Resuscitation (NB - chest compressions and cardioversion/defibrillation are not considered AGMP; however, procedures associated with CPR, such as emergent intubation and manual ventilation are AGMP)
- Non-invasive ventilation (e.g., CPAP, BiPAP) (suggest avoid where possible)
- Manual ventilation
- High-flow oxygen (i.e., AIRVO, Optiflow, not 5L oxygen by nasal prongs) (suggest avoid where possible)
- Open suctioning (e.g. “deep” insertion for naso-pharyngeal or tracheal suctioning, not inclusive of oral suction) (suggest avoid where possible)
- Bronchoscopy (suggest avoid where possible)
- Induced sputum (e.g. inhalation of nebulized saline solution to liquify and produce airway secretions, not natural coughing to bring up sputum) (suggest avoid where possible)
- Large volume nebulizers for humidity (suggest avoid where possible)
- Autopsy
- Nasopharyngoscopy
- Oral, pharyngeal, transphenoidal and airway surgeries (including thoracic surgery and tracheostomy insertion) (tracheostomy should be avoided if possible).
- High frequency oscillation ventilation (suggest avoid where possible)
- Needle thoracostomy

Not Considered Aerosol-Generating Medical Procedures

- Collection of nasopharyngeal or throat swab
- Ventilator circuit disconnect
- Chest compressions
- Chest physiotherapy
- Chest tube removal or insertion (unless in setting of emergent insertion for ruptured lung/pneumothorax)
- Coughing, expectorated sputum, sneezing
- Oral suctioning
- Oral hygiene
- Gastroscopy, colonoscopy, ERCP
- Laparoscopy (gastrointestinal/pelvic)
- Endoscopic retrograde cholangiopancreatography
- Cardiac stress tests
- Caesarian section or vaginal delivery of baby done with regional anaesthesia
- Any procedure done with regional anaesthesia
- Electroconvulsive therapy (ECT)
- Transesophageal echocardiogram (TEE)
- Nasogastric/nasojejunal tube/gastrostomy/gastrojejunostomy/jejunostomy tube insertion
- Bronchial artery embolization
- Chest physiotherapy (outside of breath stacking)
- Oxygen delivered at less than or equal to 6 liters per minute by nasal prongs and less than or equal to 15 liters per minute by Venturi masks and non-rebreather masks
- Intranasal medication administration such as naloxone

NOTE: In some cases a procedure may be listed as a non-AGMP, but WRH has recommended a higher level of PPE (e.g. nasopharyngeal swab collection). **Refer to specific WRH Care guidelines.** For non-AGMP there is no need for a room to sit for any period of time to clear airborne particles or aerosols from the room.

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