

## YNHHS/YM Guidelines regarding use of PPE for COVID-19 prevention for Inpatient and Ambulatory Care

NOTE: THIS POLICY SUPERCEDES OTHER COVID-19 RESPIRATORY PROTECTION POLICIES AND GUIDANCE. *This policy is effective as of June 11, 2020.*

**Background:** The proper use of PPE in conjunction with infection prevention behaviors such as physical barriers, social distancing and hand hygiene prevents the transmission of COVID-19.

**Scope:** These guidelines apply to ambulatory, inpatient, nursing facility and home care settings. This PPE guidance document does not provide comprehensive guidance for COVID testing or patient/work flows to ensure social distancing.

### Policy:

1. All patients, visitors, clinicians and staff will wear face masks when in any healthcare facility. A cloth mask is acceptable for patients and visitors. Face masks shall cover both the nose and mouth. Clinicians and staff in clinical areas shall wear masks provided by their institution. Homemade/cloth masks may be used in non-clinical and administrative areas.
  2. For **COVID negative/non-PUI patients**, face masks are appropriate for routine care. **A fit-tested respirator is recommended for bronchoscopy and intubation. See Appendix A for further details.**
  3. For a **COVID patient/PUI**, a fit tested N95 respirator, elastomeric respirator, or PAPR will be used when performing an aerosol generating procedure (AGP) in alignment with Connecticut Department of Public Health and Centers for Disease Control and Prevention guidelines. (Appendix B)
  4. For care of a **COVID patient/PUI which does not involve a AGP**, a non-fit-tested respirator may be used. Once care is complete, staff can either continue to wear a respirator or change back to a face mask.
  5. CDC provides guidance around aerosol generating procedures, which can be found at: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control-faq.html>
  6. When an N95 respirator is used, the preferred eye protection is a face shield to protect the respirator from fluid spray/splash.
  7. Per Connecticut Department of Public Health guidance, in “crisis”, a non-fit tested respirator may be used if a fit-tested respirator is not available.
  8. All patients shall wear a face mask whenever social distancing may not be possible. For inpatients, this includes periods of patient transport, ambulating outside of their inpatient room, when in close proximity with any other person in their inpatient room, or other scenarios where appropriate social distance may not be feasible. Patients shall be provided with a face mask and inpatients may reuse their mask for up to a week, and store their mask in a labeled paper bag on/in their bedside table. In the ambulatory setting, patients will wear a face mask at all times.
  9. For sterile procedures where respirator use is required, staff working in the sterile field shall not use respiratory PPE containing an exhalation valve (such as valved N95 or elastomeric respirators). If a non-valved respirator is unavailable, a face mask may be worn over the exhalation valve for sterile procedures.
  10. Staff screeners at entrances across all sites of care (inpatient and outpatient) are to don a face mask and eye protection. Hand hygiene shall be performed in accordance with YNHHS policy, “Hand Hygiene Compliance”.
  11. If a respirator or face mask is damaged or soiled before the end of the assigned time period, it should be discarded. Respirators should be placed in the designated bins for reprocessing, when available. Note: Cosmetics must not be worn on parts of the face which contact respirators.
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### **Operating Room Considerations**

- During intubation and extubation, only essential staff shall be present in the operating room. All staff in the room for these portions of anesthesia must wear a fit tested respirator and eye protection.
- Sterile gowns should not be used for non-sterile procedures, such as intubation and extubation.
- Surgical masks should be used by those at the sterile field or at risk for splash exposure; other institution-provided face masks are appropriate for those not at risk for splash exposure.
- Surgeons, Assistant(s) and Surgical Techs should wear double gloves per usual standard.
- Shoe coverings should be worn if indicated as part of standard precautions.
- If a patient's COVID status is unknown and an urgent procedure cannot be delayed, follow COVID+/PUI guidance for PPE selection. The OR location for patient care is to be determined by the attending surgeon and anesthesiologist, with support from Infection Prevention, if requested.

**Table 1:** Mask Distribution Frequency

<b>Mask frequency</b>	<b>Description</b>	<b>Examples</b>
Per shift	Clinicians and staff whose job primarily involves direct patient contact for most of the day	<ul style="list-style-type: none"> <li>• Clinical unit staff (RN, MD, PCA, MA, APP etc.)</li> <li>• Respiratory Therapy</li> <li>• Rehab (PT, OT and ST)</li> <li>• Ultrasound Technicians</li> <li>• Social Workers</li> <li>• Pharmacy Technicians</li> <li>• Radiology Technicians</li> <li>• Patient Transport</li> </ul> <ul style="list-style-type: none"> <li>• Visitor Screening / Entrance Screening</li> <li>• Food and Nutrition Cashiers</li> <li>• EVS</li> <li>• Skilled Nursing Facility Clinicians</li> <li>• Registrars / Front Desk Staff</li> <li>• Sleep Technicians</li> <li>• Translators</li> <li>• OR Support staff OR Assistants, Anesthesia tech, TA</li> <li>• Interventional Technologists</li> </ul>
Weekly	Rotating support staff or staff whose job involves less frequent direct patient contact.	<ul style="list-style-type: none"> <li>• Security</li> <li>• Plant Engineering</li> <li>• ITS</li> <li>• Clinical Engineering</li> </ul> <ul style="list-style-type: none"> <li>• Home Health Agency</li> <li>• OR Support Staff (Supply Coord, CA)</li> <li>• Patient Relations</li> </ul>

**Table 2:** Respiratory Specimen Sample Collection

	<b>Nasopharyngeal specimen collection</b>	<b>Mid-turbinate swab (staff obtained)</b>	<b>Mid-turbinate swab (patient-obtained; staff &gt;6 feet away)</b>
<b>Asymptomatic</b>	Respirator, eye protection, isolation gown <sup>1</sup> and gloves	Face mask, eye protection, gloves	Face mask, eye protection, gloves
<b>Symptomatic, PUI<sup>2</sup></b> (includes testing for other respiratory viruses and strep throat)	Respirator, eye protection, isolation gown and gloves	Respirator, eye protection, isolation gown and gloves	Face mask, eye protection, gloves

<sup>1</sup> Isolation gowns = non-sterile, semi-fluid resistant

<sup>2</sup> Includes patients undergoing specimen collection for testing for other respiratory viruses and oropharyngeal swabs for testing for group A streptococcus

Table 3. Ambulatory, Home Health, Assisted Living, Skilled Nursing Recommendations for PPE Use/Infection Prevention

Category	Population	Location Examples	PPE Staff / Clinician	PPE Patient	Additional Notes
Routine Care (Negative Entrance Screen)	<ul style="list-style-type: none"> <li>• Not an active COVID patient</li> <li>• Not a COVID suspect</li> <li>• COVID patient no longer requiring isolation.</li> </ul>	<ul style="list-style-type: none"> <li>• Infusion Centers</li> <li>• Specialty offices</li> <li>• Pediatrics</li> <li>• Primary Care/ Walk-in</li> <li>• Dialysis</li> </ul>	<ul style="list-style-type: none"> <li>• Face mask</li> <li>• Social distancing</li> <li>• Eye protection when clinically indicated</li> </ul>	<ul style="list-style-type: none"> <li>• Provide face mask if not wearing one</li> </ul>	<ul style="list-style-type: none"> <li>• Deep clean office daily (see “room turnover recommendations”)</li> <li>• No need to rest room between patients</li> </ul>
Routine Care (Positive Entrance Screen)	<ul style="list-style-type: none"> <li>• Postpone visit and send for testing unless emergent. If emergent, refer to COVID Precautions</li> </ul>				
Office-based procedures	<ul style="list-style-type: none"> <li>• Not an active COVID patient</li> <li>• Not a COVID suspect</li> <li>• COVID patient no longer requiring isolation.</li> </ul>		<ul style="list-style-type: none"> <li>• See Appendix A and B</li> </ul>	<ul style="list-style-type: none"> <li>• Provide face mask if not wearing one</li> </ul>	<ul style="list-style-type: none"> <li>• Enhanced cleaning per protocols</li> </ul>
Skilled Nursing Facility and Home health based care	<ul style="list-style-type: none"> <li>• Not a COVID suspect</li> <li>• COVID patient no longer requiring isolation.</li> </ul>		<ul style="list-style-type: none"> <li>• Face mask</li> <li>• Eye protection when clinically indicated</li> </ul>	Provide face mask if not wearing one	
	<ul style="list-style-type: none"> <li>• COVID suspect or COVID confirmed</li> </ul>		<ul style="list-style-type: none"> <li>• Non-fit tested respirator, eye protection, gown, gloves</li> </ul>	Provide face mask if not wearing one	
COVID Precautions	<ul style="list-style-type: none"> <li>• COVID suspect</li> <li>• COVID confirmed (on isolation)</li> <li>• New respiratory symptoms</li> </ul>	<ul style="list-style-type: none"> <li>• Designated Radiology COVID precaution sites</li> <li>• Designated Lab COVID Precaution sites</li> <li>• Private infusion or Neg Pressure rooms, includes neutropenic fever evaluation</li> </ul>	<ul style="list-style-type: none"> <li>• Non-fit tested respirator, eye protection, gown, gloves</li> <li>• Social Distancing</li> </ul>	<ul style="list-style-type: none"> <li>• Provide face mask if not wearing one</li> </ul>	<ul style="list-style-type: none"> <li>• COHORT by location: COHORT within building and by appointment time (end of day) for alternative sites</li> <li>• Clean room including wet wipe of all surfaces, knobs, handles, computers or contact Environmental Health Services (EHS)</li> <li>• Rest the room for 30 minutes (not necessary if subsequent patient is known COVID+). If the air exchanges of the room is known, rest the room for the amount of time required for 99.9% air evacuation (TABLE)</li> </ul>

## GUIDANCE CONCERNING AMBULATORY ENVIRONMENT OF CARE

### Patient flow:

- Implement social distancing for all patients at all sites including limiting patient waiting times once within clinic and directing patients directly from entry into clinic to exam/testing/procedure areas.
- Strictly limit close contact with patients to the examination, procedure, or setting up for a scan. Take patient vital signs with patient facing away from staff member.
- For questions regarding patient flow and triage, staff should speak with their supervisors.

### Room turnover workflow recommendations:

- Keep all clinic area surfaces clear from clutter to facilitate cleaning. Limit presence of fomite within the room.
- Person cleaning room should wear gloves.
- Change paper on exam table. Wipe exam table and all touch surfaces (countertops, door knobs, cabinet handles, tables, EKG machine and leads, keyboards, etc.) and patient equipment with hospital approved disinfectant wipes or any standard brand hospital disinfectant. Ensure disinfectant wipe manufacturer's instructions are followed.
- At end of day, complete enhanced patient care area cleaning including disinfect any soiled areas using hospital approved cleaning product, clean floor. Wipe exam table and all touch surfaces (countertops, cabinetry, door knobs, cabinet handles, tables, EKG machine and leads, keyboards, etc.) and patient equipment with approved cleaning product following manufacturer's instructions. Staff are to clean all rooms between patients as if patient is COVID+ with a hospital approved disinfectant.

### 1. Airborne Contaminant Removal

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

ACH $\downarrow$	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

\* This table is revised from Table S3-1 in reference 4 and has been adapted from the formula for the rate of purging airborne contaminants presented in reference 1435.

**APPENDIX A: COVID negative/Not suspected patients**

- Appendix A also pertains to patients who have recovered from COVID who no longer require isolation.<sup>3</sup>
- In the inpatient setting, if patient is in a regular pressure room, it is preferred that they be in the room by themselves if needing procedures/interventions on this list. If another patient is in the room, draw the curtain between the 2 patients for AGP and other procedures listed below.
- *Standard Precautions* include the use of eye protection if splash or spray of potentially infectious body fluids to the eyes is anticipated.<sup>4</sup>

	PPE	Negative Pressure	Comments
<b>Low Flow Nasal Cannula</b>	Face mask and standard precautions	No	If not in a room by themselves, recommend COVID testing within a day before or after procedure INITIATION (for repeated treatments/device, one-time COVID testing is recommended).
<b>High Flow Nasal Cannula (AGP)</b>			
<b>High flow/closed face mask (e.g., Venturi Mask, Cold steam, aerosol) with O2 flow rates &lt; 15L/min (AGP)</b>			
<b>Non-rebreather mask</b>			
<b>Non-Invasive Ventilation (BIPAP/CPAP) (AGP)</b>			
<b>Sputum Induction (AGP)</b>	Respirator, eye protection, isolation <sup>1</sup> gown and gloves	Recommended	Sputum induction is most often performed as part of the evaluation for Tuberculosis and should NOT be performed for COVID testing.
<b>Nebulized Medications (use for strong clinical necessity) (AGP)</b>	Face mask and standard precautions	No	If not in a room by themselves, recommend COVID testing within a day before or after procedure INITIATION (for repeated treatments/device, one-time testing is recommended).
<b>Placement of feeding tube or gastric tube (e.g., NG, OG, PEG) (AGP)</b>	Respirator, eye protection, isolation <sup>1</sup> gown and gloves	No	
<b>Tracheostomy with Trials off the ventilator</b>	Face mask, eye protection and standard precautions	No	Trials off the ventilator should be done by first attaching the trach to a closed filtered system and then deflating the trach cuff.
<b>Tracheostomy Inner Cannula Changes (AGP)</b>			
<b>Open Suctioning (AGP)</b>			
<b>Routine care of a patient with a tracheostomy (including dressing change)</b>	Face mask and standard precautions		Ask patient to wear face mask over their tracheostomy when others are in room.

<sup>3</sup> YNHHS Policies “Guidelines for Discontinuation of COVID-19 Isolation”

<sup>4</sup> YNHHS Policies “Standard Precautions” and “Hand Hygiene Compliance”

<b>Closed in-line suctioning</b>	Face mask and standard precautions	No	In the inpatient setting, one time or infrequent suctioning does not require COVID testing. For repeated treatments, COVID testing within a day before or after INITIATION of this procedure is recommended.
<b>CPR (AGP)</b>	Respirator, eye protection, procedure <sup>2</sup> gown and gloves	No	If a code is outside of a patient room, isolate the patient as much as possible. *For ambulatory locations (i.e., "911 sites"), staff responsibilities during code situations differ from inpatient settings. For these ambulatory locations, a face mask, eye protection, isolation gloves and gown are recommended.
<b>Bag Mask Ventilation (AGP)</b>			
<b>Intubation (AGP)</b>			
<b>Extubation (AGP)</b>			
<b>Bronchoscopy (AGP)</b>	Respirator eye protection, procedure <sup>2</sup> gown, and gloves	Recommended	
<b>Chest Physiotherapy</b>	Face mask and standard precautions		If not in a room by themselves, recommend COVID testing within a day before or after INITIATION (for repeated treatments/device, one-time testing is recommended). Draw curtain between patients.  If patient is unable to wear a face mask, use of a respirator is permitted if close (< 6 feet), prolonged (> 15 minutes) contact is anticipated
<b>PT/OT/ST</b>			
<b>Cardiac Rehabilitation</b>			
<b>Dysphagia evaluation (AGP)</b>			
<b>Pulmonary function testing (AGP)</b>	Face mask and standard precautions	No	If patient is unable to wear a face mask, use of a respirator is permitted if close (< 6 feet) and prolonged (> 15 minutes) contact is anticipated
<b>Exhaled nitric oxide test</b>			
<b>Exercise cardiac stress test (AGP)</b>			
<b>Basic dental physical exam and fluoride administration, panoramic radiographs, intraoral radiographs, cephalometric radiographs, Cone Beam radiographs and photographs</b>	Face mask and standard precautions		
<b>Other dental procedures (e.g., dental cleaning, drilling, cavity filling, tooth extraction, or other procedures with close, prolonged contact)</b>	Respirator, eye protection, isolation <sup>1</sup> gown and gloves		

<b>Second stage labor, Cesarean or vaginal birth</b>	Face mask and standard precautions		For patients with a pending testing result, follow PPE recommendations in Appendix B (COVID Positive/PUI). Use of a respirator is permitted if close (< 6 feet) and prolonged (> 15 minutes) contact is anticipated.
<b>GI Tract Endoscopy and other procedures where air is instilled into the GI tract</b>	Respirator, eye protection, procedure <sup>2</sup> gown, and gloves	If available	
<b>Procedure entering the mouth, sinuses or oronasopharynx (e.g., nasopharyngeal endoscopy)</b>	Respirator, eye protection, isolation <sup>1</sup> or surgical <sup>3</sup> gown and gloves	No	Wear the same gown that would normally be used in this procedure. If no gown is normally used, an isolation gown should be worn.
<b>Procedure entering the trachea or lung</b>	Respirator, eye protection, isolation <sup>1</sup> or surgical <sup>3</sup> gown and gloves	Yes	Wear the same gown that would normally be used in this procedure. If no gown is normally used, an isolation gown should be worn.
<b>Procedures where pressurized air from the pleural space escapes into the environment</b>	Respirator, eye protection, isolation <sup>1</sup> gown and gloves	No	
<b>Transpleural procedures without significant risk of a pressurized air leak (e.g., CT guided lung biopsy, thoracentesis, pleural tube placement for pleural effusion, pleural catheter removal without positive pressure ventilation, pleural catheters to suction or water seal)</b>	Face mask and standard precautions	No	
<b>Any other surgery, including: pain procedure, urologic procedure (prostate biopsy, cystoscopy), laparoscopic surgery, cardiac surgery</b>	Face mask and standard precautions	No	
<b>Patient Transport</b>	Face mask and eye protection		Ensure patient is wearing a mask

<sup>1</sup>Isolation gowns = non-sterile semi-fluid resistant, <sup>2</sup>Procedure gown = non-sterile fluid resistant, <sup>3</sup>Surgical gown = sterile fluid resistant

**APPENDIX B: COVID POSITIVE AND PUI Patients**

- Respirator, eye protection, gown and gloves are required for all care of COVID patients/PUI. See below for details.
- Negative pressure rooms are used for these patients if available. For procedures in regular pressure rooms, the door should be closed.

•	PPE	Negative Pressure	Comments
<b>Low Flow Nasal Cannula</b>	Respirator, eye protection, isolation <sup>1</sup> gown and gloves	Recommended	
<b>High Flow Nasal Cannula (AGP)</b>			
<b>High flow/closed face mask (e.g., Venturi Mask, Cold steam, aerosol) with O2 flow rates &lt; 15L/min (AGP)</b>	Avoid in these patients		
<b>Non-rebreather</b>	Respirator, eye protection, isolation <sup>1</sup> gown and glove	Recommended	
<b>Non-Invasive Ventilation (BIPAP/CPAP) (AGP)</b>			For a regular pressure room, it is preferred that PUI be in room by themselves.
<b>Sputum Induction (AGP)</b>	Avoid in these patients		
<b>Nebulized Medications (use for strong clinical necessity) (AGP)</b>	Respirator, eye protection, isolation <sup>1</sup> gown and gloves		
<b>Placement of feeding tube or gastric tube (e.g., NG, OG, PEG)</b>	Respirator, eye protection, isolation <sup>1</sup> gown and gloves	Recommended	For a regular pressure room, PUI should be in room by themselves.
<b>Tracheostomy with Trials off the ventilator</b>	Respirator, eye protection, isolation <sup>1</sup> gown and gloves	Recommended	
<b>Tracheostomy Inner Cannula Changes (AGP)</b>			
<b>Routine care of a patient with a tracheostomy (e.g., dressing change)</b>		Recommended	Trials off the ventilator should be done by first attaching the trach to a closed filtered system.
<b>Closed in-line suctioning</b>			
<b>Open Suctioning (AGP)</b>			RT to place closed filtered system
<b>CPR (AGP)</b>	Respirator, eye protection, procedure <sup>2</sup> gown and gloves	Recommended	
<b>Bag Mask Ventilation (AGP)</b>			
<b>Intubation (AGP)</b>			
<b>Extubation (AGP)</b>			
<b>Bronchoscopy (AGP)</b>			
<b>Chest Physiotherapy</b>	Respirator, eye protection, procedure <sup>2</sup> gown, and gloves	Recommended	In the hospital setting, these should be performed in the patient's room.
<b>PT/OT/ST</b>	Respirator, eye protection, isolation <sup>1</sup> gown and gloves		
<b>Cardiac Rehabilitation</b>	Avoid in these patients until isolation rescinded		



<b>Dysphagia evaluation (AGP)</b>	Respirator, eye protection, isolation <sup>1</sup> gown and gloves	Recommended	
<b>Pulmonary function testing (AGP)</b>	Respirator, eye protection, isolation <sup>1</sup> gown and gloves	Recommended	
<b>Exhaled nitric oxide test</b>	Respirator, eye protection, isolation <sup>1</sup> gown and gloves		
<b>Exercise cardiac stress test (AGP)</b>	Respirator, eye protection, isolation <sup>1</sup> gown and gloves		
<b>Basic dental physical exam and fluoride administration, panoramic radiographs, intraoral radiographs, cephalometric radiographs, Cone Beam radiographs and photographs</b>	Respirator, eye protection, isolation <sup>1</sup> gown and gloves		
<b>Other dental procedures (e.g., dental cleaning, tooth extraction, or other procedures with close, prolonged contact)</b>	Respirator, eye protection, procedure <sup>2</sup> gown and gloves		
<b>Second stage labor, Cesarean or vaginal birth</b>	Respirator, eye protection, bouffant, procedure <sup>2</sup> or surgical <sup>3</sup> gown, double gloves and foot cover	Recommended	
<b>GI Tract Endoscopy and other procedures where air is instilled into the GI tract</b>	Respirator, eye protection, bouffant, procedure <sup>2</sup> gown, double gloves and foot cover	Recommended	
<b>Procedure entering the mouth, sinuses or oronasopharynx (e.g., nasopharyngeal endoscopy)</b>	Respirator, eye protection, bouffant, procedure <sup>2</sup> or surgical <sup>3</sup> gown, double gloves and foot cover	Recommended	
<b>Procedure entering the trachea or lung</b>	Respirator, eye protection, bouffant, procedure <sup>2</sup> gown, double gloves and foot cover		
<b>Procedures where pressurized air from the pleural space escapes into the environment</b>	Respirator, eye protection, bouffant, procedure <sup>2</sup> or surgical <sup>3</sup> gown, double gloves and foot cover		
<b>Transpleural procedures without significant risk of a pressurized air leak (e.g., CT guided lung biopsy, thoracentesis, pleural tube placement for pleural effusion, pleural catheter removal without positive pressure ventilation, pleural catheters to suction or water seal)</b>	Respirator, eye protection, isolation <sup>1</sup> , procedure <sup>2</sup> or surgical <sup>3</sup> gown (as appropriate) and gloves		
<b>Any other surgery, including: pain procedures, urologic procedure (prostate biopsy, cystoscopy), laparoscopic surgery, cardiac surgery</b>	Respirator, eye protection, isolation <sup>1</sup> or surgical <sup>3</sup> gown, and gloves		

<b>Patient Transport</b>	Face mask and eye protection		Ensure patient is wearing a mask

<sup>1</sup>Isolation gowns = non-sterile semi-fluid resistant, <sup>2</sup>Procedure gown = non-sterile fluid resistant, <sup>3</sup>Surgical gown = sterile fluid resistant