Purpose	This guidance describes current recommendations during the COVID-19 pandemic for patients undergoing aerosol-generating procedures (AGP) or whose providers anticipate will need an AGP including how to prioritize the use of Airborne Infection Isolation Rooms (AIIR, "negative pressure" rooms) versus standard rooms. **Please note, all guidance is subject to change as additional information becomes available.**
Scope	All NYC Health + Hospitals Health System Healthcare Personnel
Requirements	Centers for Disease Control and Prevention (CDC) New York State Department of Health (NYSDOH)
Aerosol Generating Procedures (AGP)	The list of AGPs will be assessed on a regular basis for inclusion or exclusion of procedures.

- Airway Surgeries (e.g., ENT, thoracic, transsphenoidal surgeries)
- Intubation
- Extubation
- Chest Compressions
- Nebulization
- High flow oxygen, including nasal cannula, at >15L
- Non-invasive positive pressure ventilation (e.g., CPAP, BIPAP)
- Oscillatory ventilation
- Bronchoscopy
- Sputum induction
- Pulmonary function testing
- Rehab swallow evaluations
- Cardiac stress test (Exercise only)
- Open suctioning of tracheostomy or endotracheal tube
- Tracheostomy change
- Manual ventilation (e.g., manual bag-mask ventilation before intubation)
- Disconnecting patient from ventilator
- Upper endoscopy (including transesophageal echocardiogram, nasal endoscopy)
- Lower endoscopy (COVID-19 positive patients or PUIs only)
- Venturi mask with cool aerosol humidification
- Ventilator circuit manipulation
- Dental surgeries

The following are not considered aerosol-generating:

- Non-rebreather or oxymask, face mask, or face tent up to 15L
- Humidified trach mask up to 20L with in-line suction
- Routine trach care (e.g., replacing trach mask, changing trach dressing)
- In-line suctioning of endotracheal tube
- Routine Venturi mask without humidification
- Suctioning of oropharynx
- Cesarean delivery, post-partum hemorrhage, second stage of labor
- Nasopharyngeal swab
- Proning is not inherently aerosol-generating but aerosols are possible if the endotracheal tube becomes disconnected during the proning process

<table>
<tr>
<td>Precautions during AGP</td>
<td>
1. Airborne+Contact+Eye Protection precautions must be followed for ALL COVID-19 positive patients during AGPs regardless of community transmission.

2. Airborne+Contact+Eye Protection precautions must be followed for all patients if the COVID-19 community transmission is in the Yellow Zone or above:

Yellow Zone = 3% positivity in the community 6 cases/100,000
< 30% hospital bed availability
< 30% ICU bed availability

Appropriate Personal Protective Equipment includes a gown, gloves, eye protection, and N95 respirator or powered air-purifying respirator (PAPR)/ controlled air-purifying respirator (CAPR) if unable to be fit-tested.

a. Outpatients
i. Outpatients in whom elective AGPs are planned should be tested for COVID-19 within 5 days prior to the procedure to establish their COVID-19 status.

1. Once the AGP is complete, Airborne+Contact+Eye Protection precautions can be discontinued in asymptomatic patients (see section on Procedure for AGPs, below).

b. Inpatients
i. All inpatients are tested on admission for COVID-19, or within 5 days of a planned admission, and screened daily thereafter for symptoms.
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<tr>
<td>Use and Prioritization of AIIRs</td>
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Whenever possible, AGPs should be performed in an AIIR. When there is a shortage of AIIR rooms and there is a need for AGPs, patients will be assigned to an AIIR based on the priority schema below:
<table>
<tr><th>1st priority
COVID 19 confirmed</th><th>2nd priority
CoV-Risk (PUI)</th><th>3rd priority
CoV-Exposed</th><th>4th priority
Other Resp Viral Infection</th></tr>
</table>
Tuberculosis, varicella, and measles patients require an AIIR and are not included in this guidance. Consult with Infection Control regarding patient placement for these infections.

Note: It is not always possible to anticipate the need for an AGP; lifesaving care (e.g. intubation, chest compressions) should not be delayed in order to transfer a patient to an AIIR.
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Use of Standard Rooms for AGPs for Patients on Airborne + Contact + Eye Protection Precautions	If an AIIR is not available, AGPs may be performed in a standard patient room or exam room with the door closed. If a patient is in a positive pressure room and has not been tested for COVID-19 or if their test is pending, AGPs should be avoided except in emergency situations. 1. Conduct in a private room only. Semi-private rooms are permitted if it is occupied by only one patient or if both patients in the room have confirmed COVID-19. a. Not all AGPs can be planned. If a patient needs an urgent or emergent AGP and cannot be placed in a private room or in a semi-private without a roommate, ensure that the other patient (roommate) is either moved out of the room for the AGP and for the period of airing afterwards (see below) or, if this is not possible, ensure that the roommate is masked with a surgical mask during the time period. 2. Limit staff in the room. 3. All staff in the room must wear PPE per Airborne+Contact+Eye Protection precautions. 4. Door must remain closed. 5. After procedure, wipe down all high touch surfaces with a hospital-approved disinfectant. 6. Entry into a room after an AGP: a. An N95 or PAPR/CAPR is required for respiratory protection for up to 60 minutes after the procedure depending on the number of air changes per hour (ACH) in the room. i. Rooms with 6 ACH = 60 minutes; rooms with 12 ACH = 30 minutes. ii. Standard patient rooms, exam rooms and some AIIR require 60 minutes. iii. Operating Rooms, Procedure Rooms and some recently built AIIRs may have more air exchanges per hour thus permitting a shorter turn over time. Contact the Infection Prevention Department for a list of AIIR rooms and turnover times. 7. N95 mask, gowns, gloves, and eye protection must be worn per Airborne+Contact+Eye Protection precautions by staff remaining in the room. 8. If an AGP is performed and patient is moved from the room; staff that clean the room within the airing time after patient leaves must wear PPE per Airborne+Contact+Eye Protection precautions while cleaning room. Room can be opened to general use after cleaning is completed and airing time has passed.
Use of Procedural Room (Operating Room, Interventional Radiology, Cath Lab, Endoscopy Suites) for AGPs.	**During an AGP, all staff in the room must wear PPE for Airborne+Contact+Eye Protection precautions.** **During an AGP, all staff in the room must wear PPE for Airborne+Contact+Eye Protection precautions for all patients if community transmission of COVID-19 is in the Yellow Zone or greater zone.** 1. After procedure, wipe down all high touch surfaces with a hospital-approved disinfectant. 2. The room does not need to remain empty after the procedure as long as EVS wears appropriate PPE (N-95, protective eyewear)

	i. An N95 or PAPR/CAPR is required for respiratory protection for up to 60 minutes after the procedure (after the patient has left the room) depending on the number of air changes per hour (ACH) in the room. ii. Rooms with 6 ACH = 60 minutes; rooms with 12 ACH = 30 minutes. iii. Operating Rooms, Procedure Rooms may have more air exchanges per hour thus permitting a shorter turn over time. Contact the Infection Prevention Department for turnover times.
References	Mass General - https://www.massgeneral.org/assets/MGH/pdf/news/coronavirus/list-of-aerosol-generating-procedures.pdf NYC DOHMH COVID-19 resurgence planning briefing for healthcare stakeholders; August 14, 2020 teleconference. WHO -https://www.who.int/csr/disease/coronavirus_infections/prevention_control/en/ SCCM -https://www.sccm.org/getattachment/Disaster/SSC-COVID19-Critical-Care-Guidelines.pdf CDC -https://www.cdc.gov/flu/professionals/infectioncontrol/healthcaresettings.htm CDC -https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control-faq.html CDC - https://www.cdc.gov/coronavirus/2019-ncov/hcp/faq.html ESGE - https://www.esge.com/assets/downloads/pdfs/general/ESGE_ESGENA_Position_Statement_gastrointestinal_endoscopy_COVID_19_pandemic.pdf. Tran K, Cimon K, Severn M, Pessoa-Silva CL, Conly J**.** Aerosol generating procedures and risk of transmission of acute respiratory infections to healthcare workers: a systematic review. PLoS One. 2012;7(4):e35797. Thompson KA, Pappachan JV, Bennett AM, Mittal H, Macken S, Dove BK, et al. Influenza aerosols in UK hospitals during the H1N1 (2009) pandemic--the risk of aerosol generation during medical procedures. PLoS One. 2013;8(2):e56278.

Reviewed and/or Revised

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