Personal Protective Equipment Guidance for Care of Suspected (PUI) or Confirmed COVID-19 Patients Undergoing Surgery, Interventional Procedures, and Endoscopy, Including Anesthesia Care

Rationale: Safety of our healthcare workers at Rush is our highest priority. The best available evidence suggests that COVID-19 is primarily transmitted by droplet/contact routes, and that airborne transmission during patient care is rare.[1] Thus, standard/droplet/contact precautions with eye protection are sufficient for routine COVID-19 patient care. For procedures that generate aerosols (e.g., intubation/extubation, nebulizer treatment) we agree with CDC guidance for airborne/droplet/contact with eye protection.

Definitions:

Facemask = Generally refers to a procedure (mask with ear loops) OR surgical (mask with ties) mask.

Respirator = a mask that filters airborne particles. Includes: N95 = fitted respirator, PAPR = powered air purifying respirator, CAPR = MAXAIR® Controlled Air Purifying Respirator.

RECOMMENDATIONS:

Identifying Surgical Patients who are Suspected or Confirmed COVID-19

1. Patients are screened prior to surgery at the point of entry to RUMC for subjective fever or cough or shortness of breath. Any positive screening symptom precludes movement of the patient from the point of entry to the surgical or other procedural area and triggers evaluation for COVID-19 (PUI).

2. Inpatients at RUMC who are suspected or confirmed COVID-19 are indicated in the Epic banner.

Aerosol-Generating Procedures (including Intubation/Extubation)

1. For intubation/extubation or other aerosol-generating procedures involving suspect/confirmed COVID-19 patients, recommended PPE: **N95 respirator (or CAPR) + face shield + gown/gloves**. AIIR (negative pressure) room is not required. The minimum number of health workers necessary for patient care should be present during these procedures. For all other patients (not suspected/confirmed COVID-19), use standard precautions.

2. Time needed to clear room of airborne pathogens
    a. Rooms that with at least 15 air changes per hour (all negative pressure rooms, positive pressure ORs, all endoscopy suites, and a subset of IR rooms):

For **30 minutes** following an aerosol-generating procedure in the operating/procedure room, all personnel in the room should use airborne precautions. After 30 minutes have passed, non-airborne precautions (e.g., standard precautions) can be used.

b. Rooms that have fewer than 15 air changes per hour (usually 6 air changes for most other inpatient environments, including some IR rooms):

For **2 hours** following an aerosol-generating procedure, close door and use airborne precautions.

c. For questions about verifying air changes for a particular room, contact Medical Center Engineering .

Transport of Patients to and from the Operating Room and Procedural Areas

1. Patients with suspected/confirmed COVID-19 can be transported per current RUMC guidelines: **Patient wears a facemask and the transporter wears facemask and gloves**. If the transporter anticipates close patient contact (e.g., moving a patient to bed) then contact precautions gown should be added.

2. For transport of suspected/confirmed COVID-19, consider use of N95 respirator instead of facemask for patients requiring potential aerosol-generating respiratory care (e.g., high flow oxygen). COVID patients who need routine (non-high flow) facemask oxygen therapy during transport can be transported with facemask for the transporter. For intubated patients requiring transport, from infection control standpoint, either transport ventilator or ambu-bag with filter are equally acceptable and can be considered non-aerosol forms of ventilation.

Preserving Availability of PPE, Including Extended Use

1. Rush allows extended use of PPE in the setting of limited PPE supply. **As long as not visibly soiled, the same N95 respirator/facemask can be worn during the care of multiple patients. However, if a respirator/facemask is used during an aerosolizing procedure, it should not be used for care of another patient**. Also, once a respirator/facemask is removed, it should be discarded rather than reused.

2. PPE should be kept in a secure location that is accessible to staff who need it. At RUMC, current protocol is to have OR charge nurse be responsible for the supply of PPE at 5th floor Tower, for use when confirmed or suspected (PUI) COVID-19 patients require surgery or

interventional procedures. Supply chain to resupply all PPE (**N95 respirator + face shield + disposable gown/gloves)**. During regular working hours the Anesthesia Clinical Coordinator (and after hours and weekends the Attending Anesthesiologist on-call) will verify the clinical need for use of PPE by anesthesia staff.

Miscellaneous Comments

1. Instructional videos for donning PPE (N95 or CAPR) can be found on the Rush clinical resources page.

2. Zimmer surgical helmets (or equivalent) do not provide airborne protection, as no HEPA filter is present on air intake. They provide droplet protection only. N95 respirator masks and CAPR provide airborne/ aerosol protection.

Reference

1. Ng K, Poon BH, Kiat Puar TH, et al. COVID-19 and the Risk to Health Care Workers: A Case Report. *Annals of internal medicine.* 2020.