Guidelines for Suspected/Confirmed COVID-19 Patient Needing Urgent Surgery

Updated 03/23/2020

General Considerations

When considering a procedure for a patient with known or suspected COVID-19 infection:

- Postpone non-urgent surgical procedures until the patient is determined to be non-infectious or not infected.
- If respiratory support is indicated, planning ahead may avoid the need for rescue interventions (e.g., crash intubations), which have greater potential for infectious transmission due to mishaps during the use of barrier protections.
- In patients with acute respiratory failure, it may be prudent to proceed directly to endotracheal intubation, because non-invasive ventilation (e.g., CPAP or biPAP) may increase the risk of infectious transmission.
- When possible, perform procedures in an airborne infection isolation room rather than in an operating room. An airborne isolation room has a negative-pressure relative to the surrounding area. In contrast, a typical operating room is designed to provide positive-pressure relative to the surrounding area and incoming air is often flow-directed, filtered, and temperature and humidity controlled.
- If a procedure cannot be postponed or done at the bedside, then schedule the patient when a minimum number of healthcare workers and other patients are present in the surgical suite. It is also best to choose an operating room furthest away from other operating rooms and dedicate that room for cases involving PUIs.
- If possible, designate an OR room for COVID PUI procedures. Empty OR of all non-essential materials. Designate a separate OR equipment, medication, and airway cart.
- OR runner outside of the room (communicate by phone) for equipment, medication, and supply needs.

When patients with known or suspected COVID-19 infection need to be transported:

- Transport patients only for procedures and studies deemed essential for patient care.
- Intubated patients should have a HEPA filter inserted between the bag-valve-mask breathing device and the patient.
- Patients who are not ventilated should wear a surgical mask.
- Health care professionals transporting the patient should not routinely wear gowns and gloves, unless direct contact with the patient or contaminated equipment is anticipated during transport.
- In this case, one person should wear the appropriate PPE per CDC COVID-19 guidance, and, ideally, be accompanied by an additional member of the transport team who is not wearing a gown and gloves. The person without gloves and gown can interact with the environment.
- Prior to transport, the PPE clad person should perform hand hygiene and don a fresh gown and gloves to reduce potential contamination of environmental surfaces.
When performing procedures on patients with known or suspected COVID-19 infection:

**PREOP**
- Do not bring the patient to the holding or PACU areas. A designated OR should be allocated and signs posted on the doors to minimize staff exposure.
- Intubation should take place in an All Room prior to transporting the patient to the OR
- If general anesthesia is not required, the patient should continue to wear the surgical mask.
- If general anesthesia is used:
  - Place a HEPA filter between the Y-piece of the breathing circuit and the patient's mask, endotracheal tube or laryngeal mask airway.
  - Alternatively, for pediatric patients or other patients in whom the additional dead space or weight of the filter may be problematic, the HEPA filter should be placed on the expiratory end of the corrugated breathing circuit before expired gas enters the anesthesia machine.
  - The gas sampling tubing should also be protected by a HEPA filter, and gases exiting the gas analyzer should be scavenged and not allowed to return to the room air.
- During laryngoscopy and intubation:
  - Double gloves will enable one to shed the outer gloves after intubation and minimize subsequent environmental contamination.
  - Designate the most experienced anesthesia professional available to perform intubation, if possible.
  - Avoid awake fiber-optic intubation unless specifically indicated. Droplets containing viral pathogens may become aerosolized during this procedure. Aerosolization generates smaller liquid particles that may become suspended in air currents, traverse filtration barriers, and inspired.
- If available, use a closed suction system during airway suctioning. Closed suctioning systems may only be available in the critical care setting.
- Consider disposable covers (e.g., plastic sheets for surfaces, long ultrasound probe sheath covers) to reduce droplet and contact contamination of equipment and other environmental surfaces.

**DONNING PAPR AND SURGICAL ATTIRE**
- Perform hand hygiene
- Turn on blower
- Connect hose from belt to PAPR hood
- Don PAPR belt
- Place hood on head
- Scrub in as normal
- Enter OR and proceed normally with donning surgical attire.
DOFFING SURGICAL ATTIRE AND PAPR

- Doff surgical gown and gloves in the room at the same time using the hands crossed technique, ensuring you are reaching under the outer hood bib
- Perform hand hygiene with alcohol based hand rub
- Exit room
- Doff belt and hose with assistance of doffing partner who should be wearing gloves. Place in red biohazard bag for disinfecting.
- Hand hygiene with alcohol based hand rub
- Doffing partner to assist with doffing hood into a biohazard bag for disinfecting
- Perform hand hygiene

IMMEDIATELY wipe down belt, hose, and hood with PDI bleach wipes. Set to dry for 5 minutes.

DONNING N95 AND DOFFING N95, YELLOW GOWN, AND EYE PROTECTION WILL FOLLOW SAME STEPS AS OUTLINED FOR ALL STAFF IN TOOLKIT. MAY USE SURGICAL DRAPE IN PLACE OF YELLOW GOWN IF NECESSARY, FOLLOWING NORMAL STERILE PRECAUTIONS.

POSTOP

- The patient should be recovered in the operating room or transferred to an airborne infection isolation room.
- After the patient has left the operating room, the room must be left with the door closed for at least 1 hour to allow the proper number of air exchanges before the room is safe to enter without a mask
- After the case, complete a terminal clean of the room, including all anesthesia equipment.

STERILE PROCESSING OF INSTRUMENTS FOR COVID-19 PUI

- OR staff will handoff contained/closed case cart with an ORANGE label that states “COVID-19 PUI” to SPD leader who is dressed in full PPE (regular decontamination PPE)
- SPD leader receives cart with COVID-19 PUI cart and isolates cart from all other case carts in decon.
- Instruments must be processed in a dedicated sink for those specific sets. The sink must be drained and cleaned before using again. Apply SaniWipe (grey top) disinfectant over all surfaces, including faucets and spray arm when done, utilizing the 3 minute contact time.
- Once sets are cleaned, select a dedicated washer. Immediately after the cycle is complete, run a decontamination cycle on the washer.

After sets have been through the washer, inspect sets for bioburden wearing gown, gloves, surgical mask and faceshield.
STERILE PROCESSING OF INSTRUMENTS FOR COVID-19 PUI (Continued)

- If items are hand wash only, Do not place other items in window until item has been disinfected twice with PDI SaniWipe (grey top) utilizing 3 minute contact time each time. Fully inspect item to ensure it is clean prior to removing PPE. Do not place other items in window until PUI item has been fully disinfected.
- Once sets have been inspected and determined no bioburden exists, proceed with the rest of the process normally.

IF DEVICES SUCH AS POINT-OF-CARE ULTRASOUND ARE USED:

- A long sheath cover of the ultrasound unit and cable should be used to minimize contamination of the equipment.
- Non-essential parts of the ultrasound cart may best be covered with drapes to minimize droplet exposure.

References

1. On February 11, 2020 the World Health Organization announced that “COVID-19” is the official name for the disease associated with the current novel coronavirus outbreak. Co and Vi are derived from “coronavirus,” D stands for disease, and 19 is for 2019, the year the first cases were seen. The pathogen causing the disease is termed “Severe Acute Respiratory Syndrome Coronavirus 2,” abbreviated as SARS-CoV-2.

2. An Airborne Infection Isolation Room (AIIR) has a negative-pressure relative to the surrounding area. A minimum of 6 air changes per hour (12 air changes per hour are recommended for new construction or renovation). Air from these rooms should be exhausted directly to the outside or be filtered through a high-efficiency particulate air (HEPA) filter before recirculation. Room doors should be kept closed except when entering or leaving the room, and entry and exit should be minimized. Facilities should monitor and document the proper negative-pressure function of these rooms. If an AIIR is not available, patients who require hospitalization should be transferred as soon as is feasible to a facility where an AIIR is available.

3. Personal protective equipment (PPE) is specialized clothing (e.g., gowns, gloves) or equipment (e.g., face shields, masks) worn by a health care worker for protection against a hazard. Hazards may include physical, chemical, and biologic hazards; however, the PPE's specified in these recommendations are designed to protect the wearer from infectious hazards transmitted by direct or indirect contact, droplets, and airborne particles.

4. The Anesthesia Patient Safety Foundation (see link below) states that a PAPR may be warranted for airway procedures on these patients given prior cases of infection transmission of SARS-CoV when N95 masks were used.

NOTE: The ASA Committee on Occupational Health gratefully acknowledges the Society for Healthcare Epidemiology of America (SHEA) for their expert review of these recommendations and the Anesthesia Patient Safety Society (APSF), whose excellent perioperative recommendations for patients known or suspected of COVID-19 infection were a valuable resource for revising these recommendations.

Disclaimer: These recommendations are based upon information available as of 2/23/2020. COVID-19 is an emerging disease. New knowledge is added daily and guidance may change as the situation evolves. Please consult the CDC website regularly for the most up-to-date information.