University Health System

**TITLE: Operating Room Protocol for Obstetric Patients With Known COVID-19 or Patients Under Investigation (PUI) for COVID-19 in Labor & Delivery**

**DATE: April 15, 2020**

This protocol is meant to guide anesthesia and nursing in the operative care of a patient identified either as COVID-19 positive or a Patient Under Investigation (PUI) for COVID-19.

1. Preparation:
    a. Notification of patient with either positive COVID-19 or PUI status as identified in Sunrise should occur at time of decision to operate with all parties, nursing, obstetrics and anesthesia.
        1 A call should be made to both L&D nursing charge (210) 358-4263 and anesthesia (210) 358-1468 to alert both teams of the patient and disease status.
        2 A call will be made to the MAIN OR Anesthesia Team for Support, Call 210-743-0611 (Airway Phone) Goal will be to provide additional anesthesia tech, additional anesthesia resident and/or faculty
    b. MAIN OR 12 should be the dedicated OR for non-emergent obstetric case where patient is known COVID-19 or PUI. If MAIN OR 12 is not feasible or in urgent cases or emergencies, decision will be made by the Labor and Delivery team to transfer the patient to the designated Labor & Delivery COVID OR for the case. The L&D COVID OR should be used for any urgent or emergency cases involving women who are COVID positive or PUI.
    c. Personnel assigned to this case should be selected to best minimize hand-overs and shift changes therefore minimizing the amount of exposed personnel.
    d. The same anesthesia machine should be used throughout and should remain in designated Labor & Delivery COVID OR.
    e. The anesthesia PYXIS machine should be removed from the OR and stationed outside OR in the hallway. This is meant to minimize contaminated surfaces.
    f. A tray should be substituted for the PYXIS and utilized as a station for medications and airway devices.
    g. Anticipated equipment, drugs, and supplies should be assembled and at the ready as much as possible prior to patient arrival.
    h. Personnel should place mobile phones, badges and all personal items outside of OR.

i. Communication outside of OR will occur via a dedicated Cisco phone (210) 358-1354. This phone will not require a long-distance code to reach out of area numbers. This measure is to limit the exposure of personal mobile devices and pagers to this isolated environment.
j. A gatekeeper will be stationed outside of OR at all times to minimize personnel exiting the OR.
k. A RN will be available outside the OR who is available to draw medications, deliver supplies and assist with computer tasks. This position can also be fulfilled by anesthesia personnel depending on availability.
l. A scrub tech or tech runner will be available outside the OR to assist with delivery of supplies, equipment needed.
m. PPE to include N95 mask, gloves, eye wear, hair covers, shoe covers and gowns will be stationed outside OR at all times.
    i. PCC will control distribution of N95 masks and station PPE equipment in isolation cart outside of OR.
    ii. Standard wipeable isolation precaution signs are placed on entry points into OR.
n. Clear signage will be posted to indicate limited traffic and isolation status. The runner will additionally serve as a gatekeeper for unneeded entry and exposure.

2. Intraprocedure:
    a. Patient will be brought directly to the OR. Patients who are not intubated will wear a surgical mask during transport.
    b. All personnel will utilize full PPE protection to include: N95 mask, gloves, gown, UHS laundered scrubs, eye protection, hair covers, and shoe covers. No personal jackets should be worn in this room or during case.
    c. Communication outside of OR will be done via Cisco COVID phone.
    d. Supplies, medications, etc will be delivered to OR by runner in a disposable bin
    e. Airway manipulation should be done with disposable equipment when possible.
    f. Intubation should be performed with aim to limit aerosolization of virus:
        i. Ensure adequate preoxygenation
        ii. Perform Rapid Sequence Intubation (RSI) when possible
        iii. Consider intubation by experienced anesthesia personnel
        iv. Utilize video laryngoscopy when possible, minimize use of fiberoptic intubation
        v. Utilize double glove technique when intubating—i.e. removing outside gloves immediately following airway manipulation.

g. A viral/bacterial filter should be placed on every oxygenation interface. Additionally, CO2 sampling line should be placed after the filter.
h. At any moment when it is necessary to disconnect patient from circuit, gas flow should be stopped and endotracheal tube should be clamped.
i. Examples of this would occur when transitioning patient from transport ventilator to circuit.
    ii. If providers need to exit room, PPE should be removed in OR *with exception of N95* which should be removed after exiting room.
j. Patients who do not require ICU recovery should be fully recovered in the designated COVID labor & delivery room.
k. Patients who go to ICU should be transported directly to ICU with all personnel utilization PPE.

3. Post Procedure:
    a. During transport, the PPE requirements for transport team members is dictated by whether the patient is wearing a facemask or is intubated.
        i. If patient is wearing a facemask: Transport team members should wear a barrier mask (e.g. surgical or procedural mask). Gowns, gloves, eye protection not indicated during transport.
        ii. If patient is intubated: Transport team member managing airway should utilize full PPE (N95 respirator, eye protection, gown, gloves) and may not interact with the hospital environment during transportation.
            1. A team member wearing an N95 mask should be available for tasks such as opening doors, summoning the elevator, etc and should not make contact with the patient.
    b. Upon completion of transport, all PPE should be removed in patient's room with the exception of barrier (e.g. surgical or procedural) or N95 mask (depending on isolation need)—which should be removed and promptly disposed.
    c. OR should be thoroughly decontaminated with all devices, machines, computers and pumps disinfected.
    d. Unused anesthesia equipment and supplies should be disposed of and removed from OR (ie, no residual items in sharps container).
    e. Soda lime and HME filter should be disposed of between cases.
    f. Team debriefing after each case.
    g. Anesthesia machine should be cleaned according to guidelines by the Anesthesia Patient Safety Foundation, CDC and manufacturer's guidelines.
    h. APSF guidelines can be found here: https://www.apsf.org/fa-on-anesthesia-machine-use-protection-and-decontamination-during-the-covid-19pandemic/

References:

Ti LK, et al. What we do when a COVID-19 patient needs an operation: operating room preparation and guidance. Can J Anesth. 3/2020.

CDC COVID-19 Infection Control recommendations: https://www.cdc.gov/coronavirus/2019ncov/infection-control/infection-prevention-control-faq.html - accessed 3-24-20

Columbia Anesthesia Guideline for Intubation of Patients with Suspected or Confirmed COVID-19 (ver 10 Mar 2020)

European Society of Anesthesiology: Airway Management in Patients with COVID-19 (ver 1.0 Feb 2020)

American Society of Anesthesiologist: Resources for COVID-19 online at asahq.org (accessed 17 Mar 2020)

Anesthesia Patient Safety Foundation: Resources for COVID-10, online at APSF.org (accessed 18 Mar 2020)