

Care of the Pregnant PUI/COVID + in Labor and Delivery, Post-partum; Newborn care at Delivery

1. Testing criteria pregnant patients
 - a. Acute respiratory tract infection (sore throat, cough, SOB), +/-fever, and
 - i. Those patients who are hospitalized
 - ii. Confirmed COVID 19 exposure or travel to high transmission region
 - iii. High Risk Special Populations
 1. OB pts with significant obstetrical co-morbidities i.e. immunocompromised or per Obstetrician discretion
 - iv. Patients who present to the hospital with only acute respiratory symptoms (cough, SOB, sore throat, fever) will be cared for in ED
 - v. Patients who present to the hospital with labor or an obstetrical complication and COVID symptoms will be cared for in Labor and Delivery
2. Isolation precautions for PUI/COVID positive pregnant patients:
 - a. L&D Negative pressure or regular room
 - b. Antepartum patients single patient regular room
 - c. L&D OR-positive pressure with HEPA filter (currently cohorting LDR 7,8,9)
 - d. Post-partum regular or negative pressure rm (negative pressure for instances where there would be an aerosolizing procedure)(currently cohorting 403, 4, 5, 6)
 - e. 1 labor support who Dons gown, gloves, eyewear for direct care.
 - f. Limit providers and RN's entering the room
3. Recommendations for Provider and RN staff when caring for Labor and Delivery PUI/COVID 19 + patient
 - a. Patients who are known PUI/COVID 19 + or present with fever and respiratory symptoms in labor will be roomed in LDR 7,8,9
 - b. Enhanced precautions will be used due to risk for aerosolizing procedures for mom and baby during Labor and Delivery
 - i. PPE-N95 mask, gown, 2 sets of gloves, face shield
 - ii. Limit care providers
 - iii. 1 Support person allowed wear surgical mask at all times; gown/gloves should be worn when in contact with patient or providing direct care to patient
 - iv. Cluster care when possible
 - v. 1:1 nursing care
 - vi. Attending and upper level resident provide direct care
 - vii. Examine what interaction can be by phone i.e NICU consults before delivery
 - viii. Nitrous administration has temporarily been discontinued
4. Epidural anesthesia for Labor and Delivery-
 - a. Personnel
 - i. Anesthesiologist
 - ii. Second anesthesia provider
 - iii. Labor RN

b. Background

- i. Epidural analgesia is **not** contraindicated in patients with suspected or confirmed COVID-19 infection.
- ii. Epidural analgesia may decrease the need for general anesthesia in these patients.
- iii. Induction of general anesthesia, endotracheal intubation and extubation are procedures with a high risk of aerosolized spread of the COVID-19 virus. These interventions should be avoided whenever possible.
- iv. Some COVID-19 infected patients have developed thrombocytopenia. Consider checking a platelet count before proceeding with epidural analgesia
- v. Epidural analgesia should be performed by the most experienced available anesthesia provider
- vi. Combined spinal epidural and dural puncture epidural techniques increase the success rate of epidural analgesia and decrease the need for supplemental provider-administered boluses.

5. Process

a. Personal Protective Equipment (PPE)

- i. The anesthesiologist will don the appropriate hospital-prescribed PPE for a non-aerosol generating procedure.
- ii. The anesthesiologist will don PPE and prepare the items needed for the procedure outside of the patient's room.
- iii. The anesthesiologist will **not** bring the entire epidural cart into the patient's room. Instead, the anesthesiologist will use a small, mobile, easily cleaned cart.
- iv. While the anesthesiologist is preparing for the procedure, the RN will don her PPE and enter the room to prepare the patient.
- v. Make sure that an epidural pump, power cord and patient control "button" are in the room.
- vi. Apply blood pressure cuff and pulse oximeter

b. Position the patient: The RN will likely be in front of the patient as she/he positions the patient. Patient should be masked. Consider using the support person for positioning, having the patient hold a pillow. After proper positioning RN can step aside to decrease close patient facing exposure.

i. Sitting

1. Have patient move to center of the bed. Try to avoid having her sit on the seam between the body of the bed and the foot piece.
2. Have the patient move to the far edge of the bed opposite the fetal monitor. The patient will need to flex her hips and ideally cross her legs to sit comfortably in this position.
3. Adjust elastic monitoring straps. Ideally, move one strap under the patient's buttocks and slide other one up to her upper back.

ii. Lateral

1. Have the patient roll on her side.
2. Have her move her hips and shoulders to the far edge of the bed.
3. The patient should flex her hips and knees as much as possible

4. Have the patient flex her neck and shoulders. Try to keep shoulders perpendicular to the bed. (Sometimes the top shoulder will rotate more than the bottom shoulder. This position can twist the spine.)
 5. Adjust elastic monitoring straps. Ideally, move one strap under the patient's buttocks and slide other one up to her upper back.
- c. Placement
 - i. When everyone is ready, the anesthesiologist will enter the room wearing sterile gloves and will bring the prepared epidural cart.
 - ii. The anesthesiologist will place, dose and secure the epidural catheter.
 - iii. The anesthesiologist will program, connect and start the epidural pump.
 - iv. The anesthesiologist will properly dispose the all used sharps and other supplies.
 - v. The anesthesiologist will wipe down the mobile cart with bleach wipes.
 - vi. After making sure that the patient is comfortable and stable, the anesthesiologist will remove their PPE and leave the room.
 - vii. The labor RN will remain in the room and monitor the patient as per BMC policy.
 - d. Support Person
 - i. The support person will remain in the labor room during the epidural insertion.
 - ii. The support person will usually sit near the entrance alcove.
 - iii. Occasionally, the support person may sit close to the patient to help translate and comfort.
 - iv. The support person does should wear appropriate hospital-prescribed PPE.
6. For Delivery
- a. Obstetrics Team in LDR for Vaginal Delivery in Negative Pressure Rm
 - i. RN assigned to mom, Baby nurse, Attending and/or upper level resident
 - ii. See Donning and Doffing procedures, laminated pictures next to precaution signs
 - iii. Virus not found in amniotic fluid or cord blood
 - iv. Infants born to PUI/COVID 19+ moms are considered PUI
 - v. Risk of fetus being infected is low *Chen HGJ et al, Lancet 2020; 395: 809-15
 - vi. Greatest transmission for newborn is horizontal transmission, droplet from mother after delivery
 - vii. Location of resuscitation for infants in LDR for vaginal delivery
 - viii. NICU to be called for Delivery (see below for NICU care)
 - b. Obstetrics Team in L&D OR (positive pressure) or in Main OR negative pressure rooms (to be available April 1)
 - i. In a positive pressure OR (L&D), clinicians caring for patient need to stay in the room and minimize coming in and out of the room. After an aerosolizing procedure (intubation) the goal is not to open the doors for 30 minutes.
 - ii. At delivery the infant is immediately taken to resuscitation room so that NICU can leave with infant if necessary.

- c. Once OR and resuscitation room has been used for COVID +/-PUI patient; in the event there is a second case, resuscitation room cannot be used until the OR and resuscitation room is cleaned from the COVID +/-PUI patient.
 - d. NICU team-see Newborn COVID 19 clinical Care Guidelines
7. Post-partum care
- a. Isolation
 - i. Patient to be transferred to Mother Baby post-partum room (does not need to be negative pressure rooms, 411 & 424 unless aerosolized procedure is planned).
 - ii. Droplet precautions should be used while caring for mother.
 - iii. CDC recommends separation of mother and infant if possible, NICU staff is prepared to care for baby in isolation in the NICU location.
 - iv. Education should be given to parents prior to delivery about CDC recommendation for mother infant separation.
 - v. If family disagrees with separation plan, an alternative colocation plan could be considered with infant placed in mom's room in an isolette, 6 feet from mom and partner. Screening should be used to create a physical barrier. In this instance, a healthy family member can care for infant in full PPE.
 - vi. Post-partum mothers that were thought to be COVID negative who then become COVID +/-PUI after delivery, if they have already been rooming in with infant will be co-located with infant in post-partum room in an isolette, 6 feet from mom and partner.
 - b. Feeding
 - i. During temporary separation, mothers who intend to breastfeed should be encouraged to express their breast milk to establish and maintain milk supply. If possible, a dedicated breast pump should be provided. Prior to expressing breast milk, mothers should practice hand hygiene.¹ After each pumping session, all parts that come into contact with breast milk should be thoroughly washed and the entire pump should be appropriately disinfected per the manufacturer's instructions. This expressed breast milk should be fed to the newborn by a healthy caregiver.
 - ii. If a mother and newborn do co-locate and the mother wishes to feed at the breast, she should put on a facemask and practice hand hygiene before each feeding.
 - c. Discharge Plan
 - i. The individual discharge plan for mother and infant should be developed taking in consideration mom's length of illness, symptoms and testing results. This plan will be developed as discharged approaches in collaboration with the care team.