Ontario Health Toronto

Toronto Region COVID-19 Hospital Operations Table

COVID-19 – Recommendations for Management of Pregnant Women and Neonates with Suspected or Confirmed COVID-19

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PURPOSE: This document describes the escalated procedures that all Toronto Region hospitals should implement to prevent in-hospital transmission of COVID-19 when community transmission is evident in Ontario. The document describes guidelines and algorithms for managing pregnant women and neonates with suspected or confirmed COVID-19 infection in labor.

BACKGROUND:

COVID-19 is a novel respiratory pathogen that has emerged and has resulted in a global pandemic. As the extent of the pandemic expands. it is inevitable that Canada will be impacted. There has already been human to human spread of COVID-19 in British Columbia (BC) without any link to high-risk travel as well as a BC nursing home outbreak related to a COVID-positive healthcare worker who worked while ill. Hospitals currently have screening processes in place for patients at key entry points (e.g., ED, labour and delivery triage) to identify those potentially ill with COVID-19. However, consistent messaging and guidelines for management of pregnant women and neonates with suspected or confirmed COVID-19 infection are lacking.

CURRENT STATE:

Currently, no guiding recommendations are available for safe caring of pregnant women, neonate and her family. Stricter suggestions from China indicate separation of baby and mother for 2 weeks and discourage breastfeeding. However, CDC does not recommend separation of relatively well mother and baby. Fortunately, all reports regarding newborns have shown that even neonates who had positive surface swabs recovered completely and no mortality is reported.

FOR ACTIVATION OF THESE GUIDELINES:

These guidelines were developed and approved by representatives from obstetric, pediatric and infection prevention and control from Level 3 hospital and level 2 hospitals. **These guidelines may need to be adjusted according to local institution for operationalization; however, the purpose is to have underlying similar principle of management across Toronto Region hospitals.**

PLANNING PRINCIPLES:

- The safety of our patients, volunteers, staff, physicians and learners is paramount
- Safe provision of care to pregnant women, neonates and families
- Family integration in the care to the extent feasible without compromising safety and health of everyone involved
- Seamless transition of mother and infant to home

RECOMMENDATIONS: The first page reports a COVID-19 Active Screening Protocol which most organization have developed in one or other format.
This is followed by four algorithms are attached with in this document for your perusal.
These are suggested guidelines from the Toronto Region Hospital Operations Table and can be adapted for use across Ontario for all hospitals providing maternal newborn care.

1. COVID-19 Active screening protocol according to your hospital policy
2. Obstetrical triage management of pregnant women in labor or requiring emergent/urgent obstetrical assessment
3. Outpatient Assessment and Management for Pregnant Women with Suspected or Confirmed COVID-19
4. Guideline for management and referral of the critically ill COVID-19 positive pregnant patient
5. Management of labour, birth and postpartum care for patient under investigation (PUI) or with confirmed COVID-19 infection
6. Management for neonate with suspected or confirmed COVID-19 exposure – Asymptomatic newborn
7. Management for neonate with suspected or confirmed COVID-19 exposure – Symptomatic newborn
8. Contact with Newborn for Pregnant Women with Suspected or Confirmed COVID-19 Infection
9. Feeding infants born to Mother with Confirmed or Suspected (PUI) COVID-19 Infection

KEY POINTS:

1. If the infant requires admission to the neonatal intensive care unit, parents/caregivers who are exposed to COVID-19 or known to be COVID-19 positive will not be allowed to visit the infant in this unit (including mother and father).
2. Parents will not accompany their child if neonate requires transfer to higher level of care.
3. Public Health will follow up with mothers who were positive for COVID-19 and have been discharged home but their neonate is still in hospital with regard to when she will be non-communicable and can visit her baby in neonatal unit.

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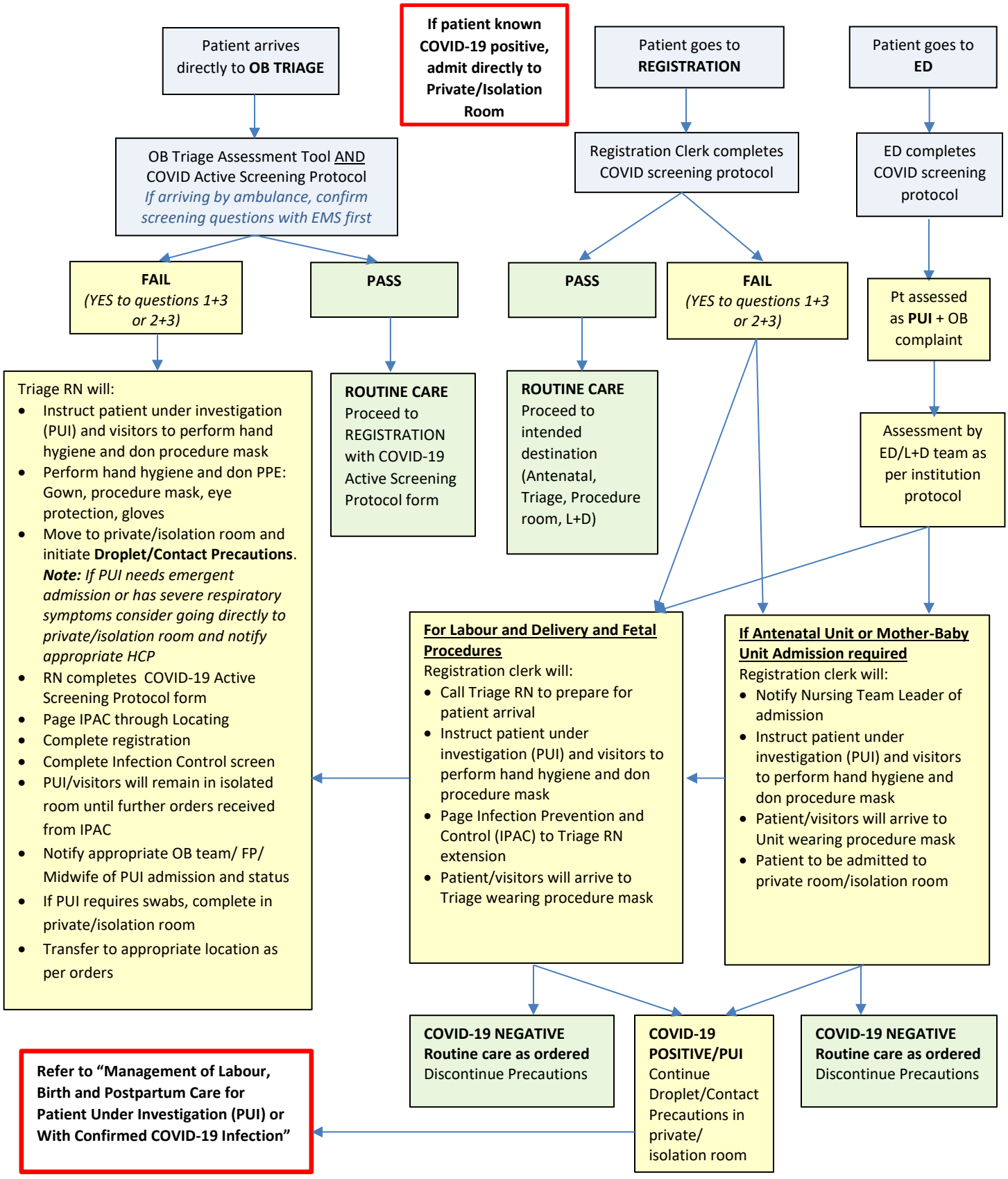
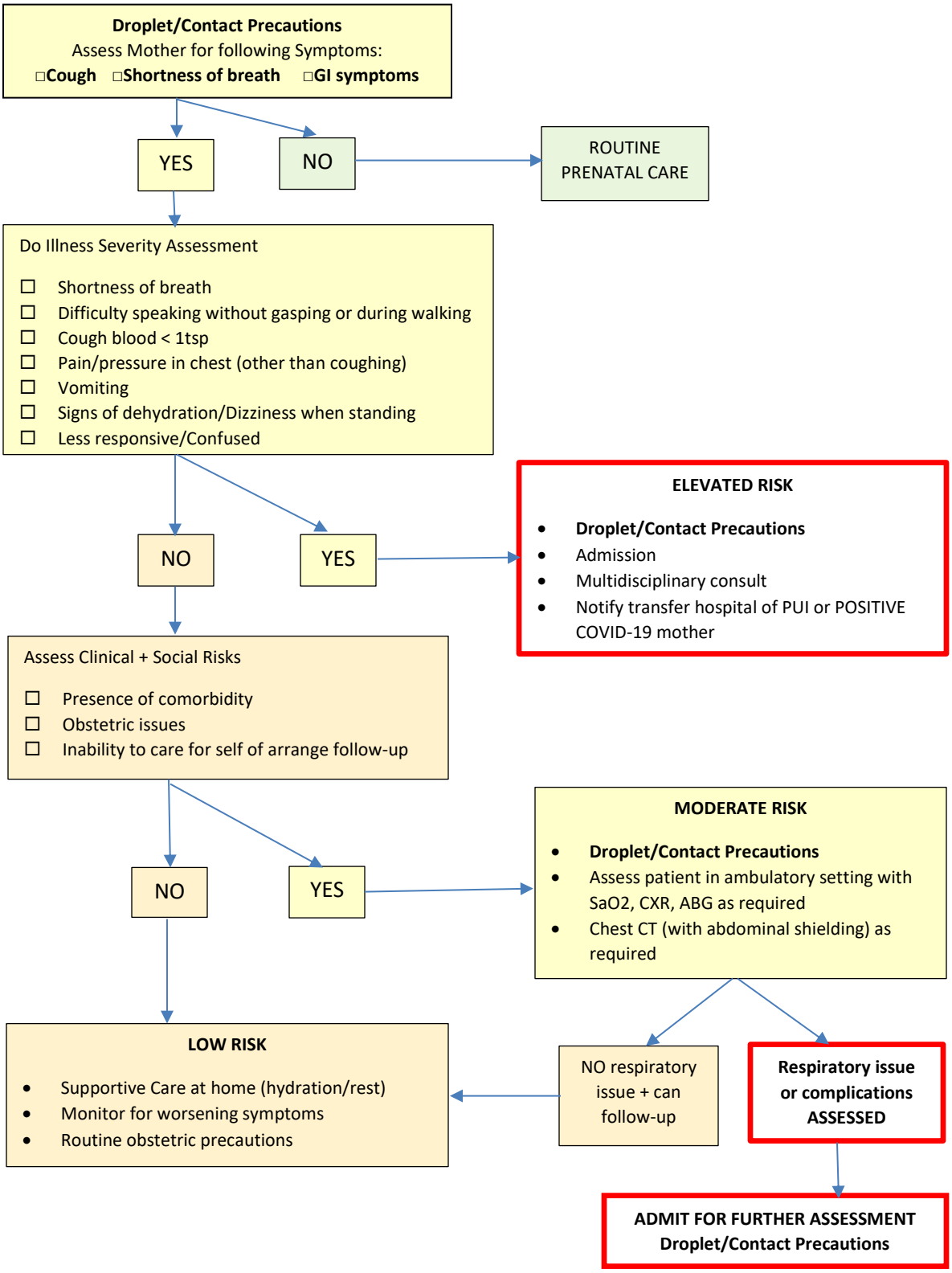
1. COVID -19 Active Screening Protocol

Please use your hospital's screening process to identify suspect (Person Under Investigation) or confirmed patients with COVID-19.

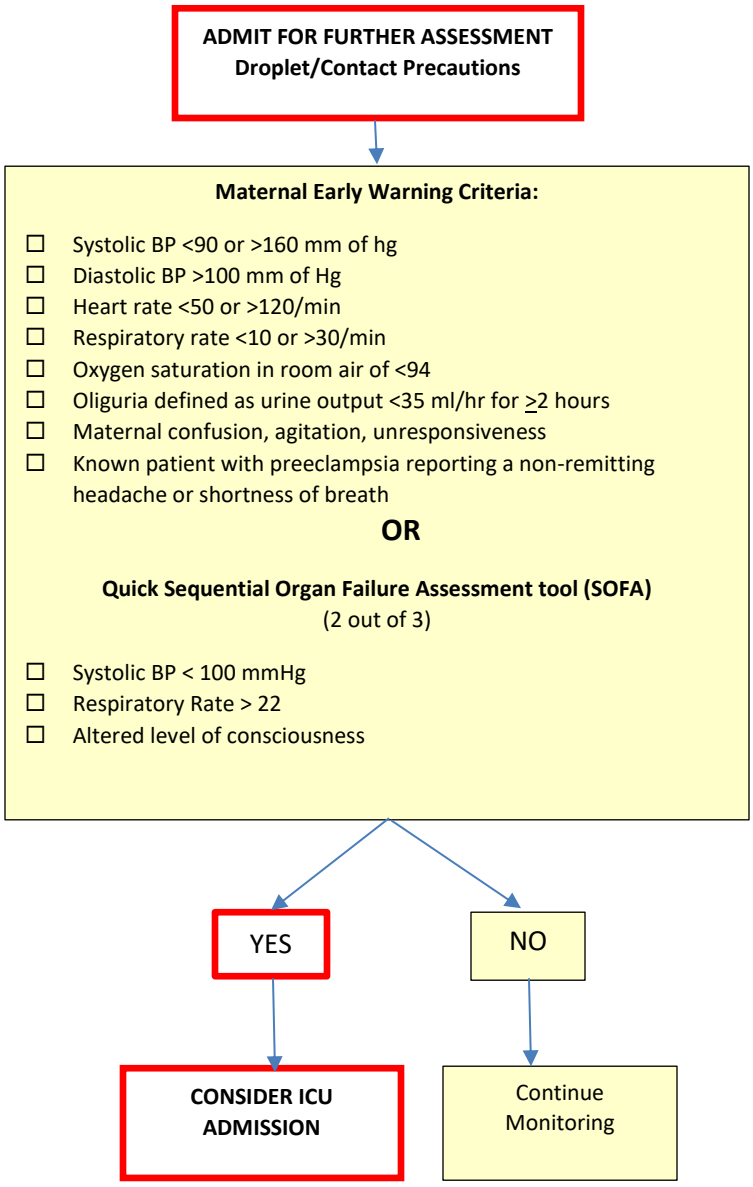
2. Obstetrical Triage Management of Pregnant Women in labor or Requiring Emergent/Urgent Obstetrical Assessment



3. Outpatient Assessment and Management for Pregnant Women with Suspected or Confirmed COVID-19



3a. Outpatient Assessment and Management for Pregnant Women with Suspected or Confirmed COVID-19 (contd.)



Guiding principles for management:

a. Consider oxygen therapy to keep O2 sat >95%
b. Encourage oral hydration; limit IV fluid if concern for cardiovascular instability.
c. Antipyretic therapy (for maternal comfort and to limit the fetus to the risk of maternal increased body temperature).
d. Screen for other viral infections and/or superimposed bacterial infections; consider empiric antibiotic therapy.
e. If hospitalized, consider VTE prophylaxis.
f. Consider fetal monitoring as a tool to detect maternal deterioration.
g. The diagnosis of COVID 19 itself is not an indication for delivery.
h. Consideration of the use of empiric antenatal steroids (based on gestation age) given the risk of preterm birth associated with acute maternal illness.

4. Guideline for management and referral of the critically ill COVID-19 positive pregnant patient

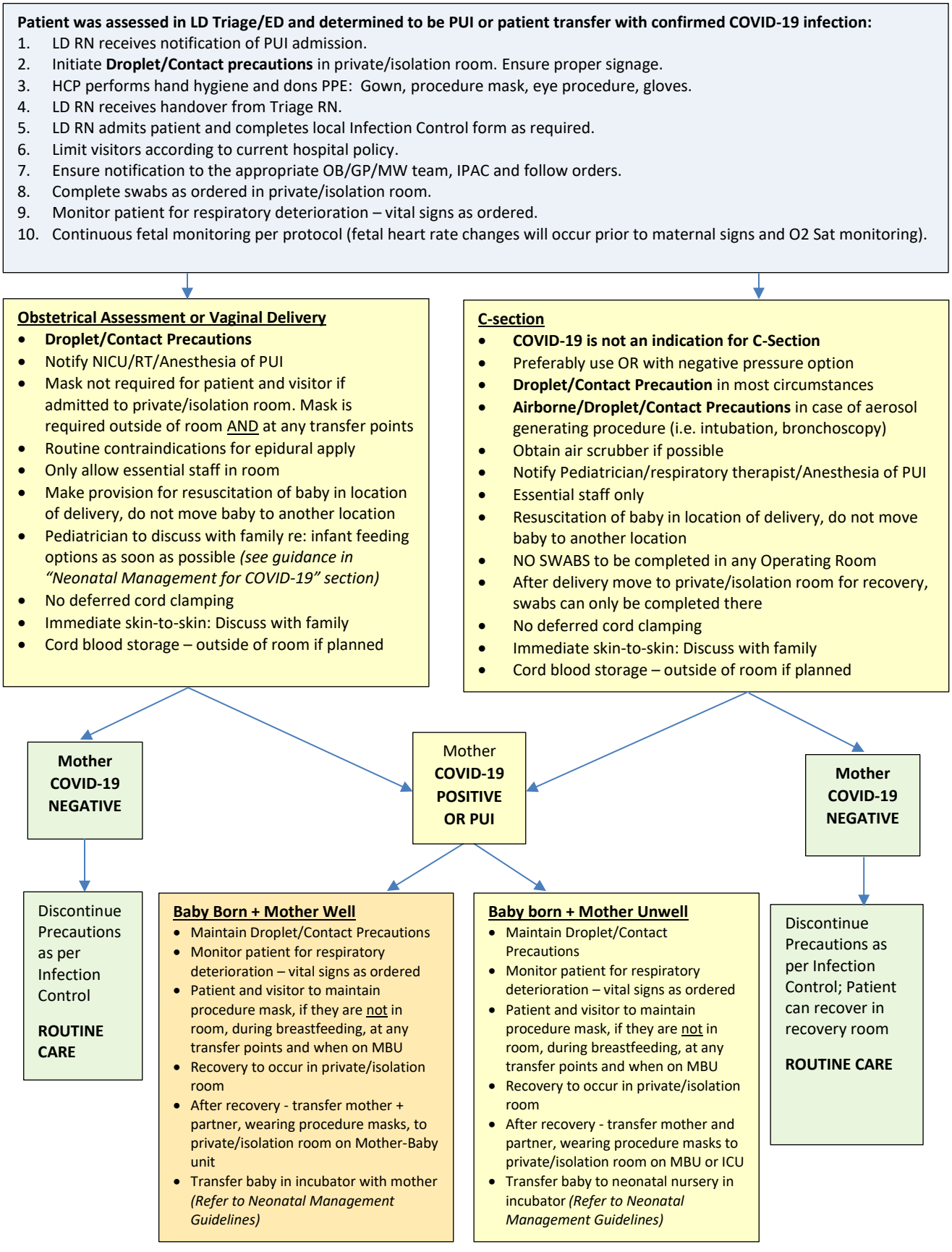
The consequences of a COVID -19 infection during pregnancy are uncertain; to date there is no evidence for severe outcomes, however the possibility should be considered. Pregnant patients with COVID-19 infection who are asymptomatic and/or have mild symptoms should be managed at home with self-monitoring and symptom relief. If the pregnant COVID-19 patient is admitted to hospital, there is limited indication from inter-hospital transfer for any patient with COVID-19 infection including those requiring ICU admission. However, given the potential obstetrical consequences of the critically ill pregnant patient admitted to the ICU (non-reassuring fetal status, indicated or spontaneous preterm birth), there may be indication for inter-hospital transfer. The following is a guide to the direct care of the COVID-19 pregnant patient.

1. The "well" COVD19 pregnant patient does not need referral to a tertiary care centre for in patient care and/or ambulatory consultation.
    a. There is no information to date to suggest COVID-19 is teratogenic or has long- term implication for fetal/neonatal health: referral to Maternal Fetal Medicine and/or Prenatal Genetics and Diagnosis is NOT indicated at this time.
    b. Following recovery, consider follow up assessment of fetal growth and well-being (q2-4 weeks); refer according to obstetrical indication.
2. The management of the "unwell" COVID 19 pregnant patient is similar to any acute viral respiratory illness: supportive therapy and possible hospitalization. A COVID-19 positive pregnant patient with sign/symptoms of pneumonia should be admitted to hospital. The patient should be managed by a multidisciplinary team in a hospital setting: internal medicine (respirology), infectious disease and obstetrics services should be involved. The intensive care unit (ICU) should be made aware of the admission of any pregnant patient admitted with COVID-19 in the event of acute deterioration.
3. A pregnant COVID-19 patient who does not have pneumonia but is "unwell" may also require hospitalization if they are at risk of acute maternal deterioration. These patients include:
    a. Any medical co-morbidity of pregnancy: type I DM with end organ involvement, chronic hypertension, renal impairment, cardiovascular disease, immunosuppression, active cancer diagnosis, chronic respiratory disease.
    b. Any obstetrical co-morbidity: PET/HELLP, acute VTE, preterm premature ruptured membranes (at risk for chorioamnionitis).
4. In-patient surveillance should be in place to ensure the recognition of maternal deterioration and/or indication(s) for admission to the ICU. In general, the most common reason for an ICU admission would be respiratory: clinical respiratory distress, hypoxemia on pulse oximetry or significant chest X-ray infiltrates. Consideration should be given for a low threshold to ICU admission given the potentially difficult airway management of the pregnant patient.
5. If the COVID-19 pregnant patient is admitted to the ICU, there **may be indication for inter-hospital transfer based on gestational age and the availability of the neonatal care facility at the referral institution**.
6. If the patient is < 22 weeks' gestation (prior to viability); the patient DOES NOT require inter-hospital transfer for obstetrical considerations; may require transfer based on medical indications.
7. If patient is 22 weeks' and 0 days to 23 weeks and 6 days; the decision will need to be made after discussion with obstetrician on call at referring facility. Woman may require transfer for medical indication for herself.
8. If the patient is 24-32 weeks' gestation and the referral facility DOES NOT have neonatal facilities to manage the care of a neonatal at this gestational age (level III NICU), CONSIDERATION could be made for transfer to a level III centre given the inherent obstetrical risk of the critically ill pregnant patient.
9. If the patient is >32 weeks' gestation and the referral facility DOES NOT have neonatal facilities to manage the care of a neonatal at this gestational age (level II NICU), CONSIDERATION could be made for transfer to a level II centre.

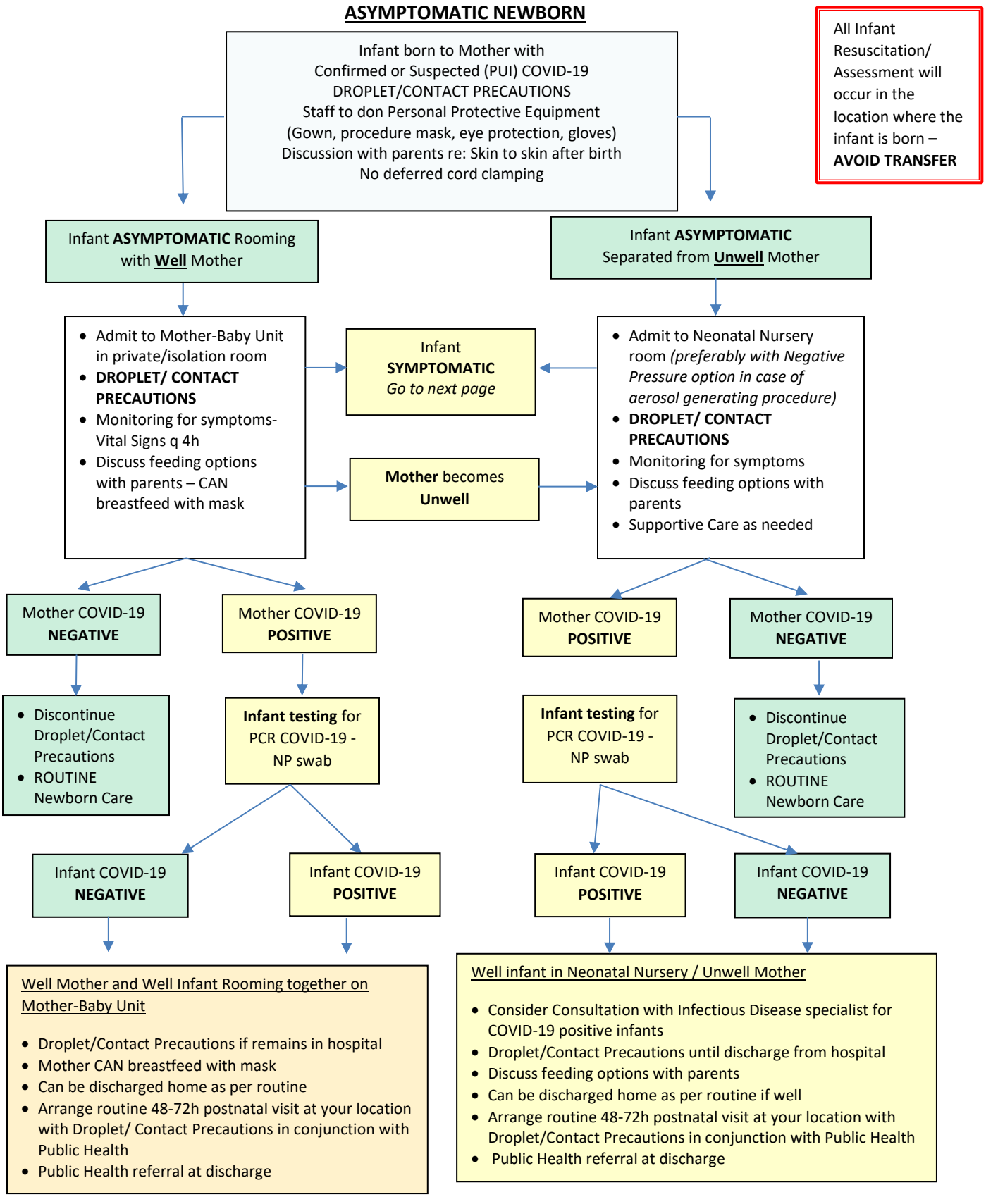
References

1. ACOG PRACTIC BULLETIN: Critical care in pregnancy #211. Obstetrics and Gynecology, vol 133(5), 2019.
2. Guidelines for pregnant women with suspected SARS-CoV-2 infection; Lancet Infectious Disease, March 2020. https://doi.org/10.1016/S1473-3099(20)30157-2
3. Care for Critically Ill Patients with COVID-19. JAMA Insights. March 2020 doi:10.1001/jama.2020.3633
4. Maternal early warning systems- towards reducing preventable maternal mortality and severe morbidity through improved clinical surveillance and responsiveness; Seminars in Perinatology; 41, 2017.
5. Use of maternal early warning trigger tool reduces maternal morbidity; AJOG 214:527:e1-6; 2016.

5. Management of Labour, Birth and Postpartum Care for Patient Under Investigation (PUI) or With Confirmed COVID-19 Infection

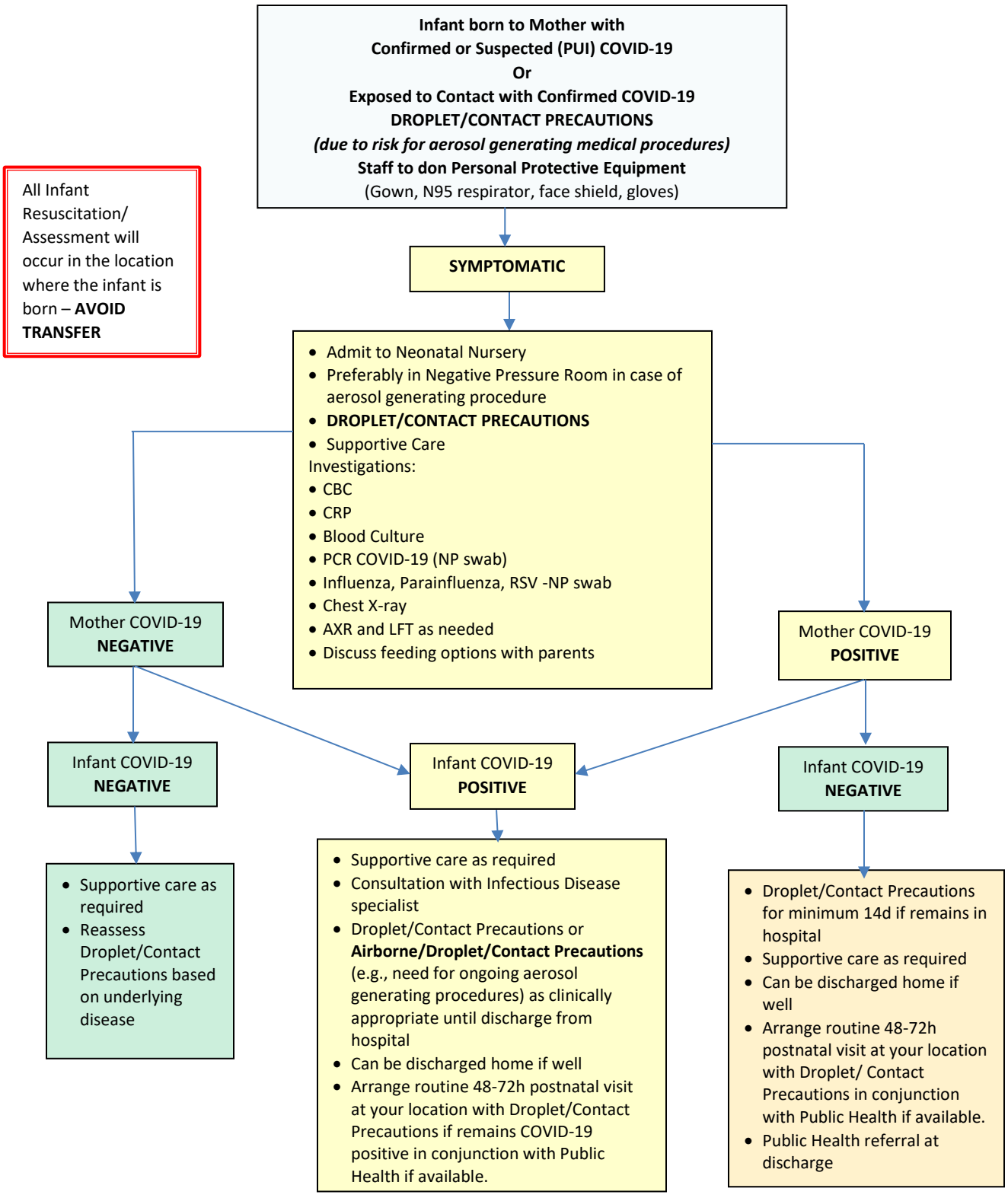


6. Neonatal Management for Neonate with Suspected or Confirmed COVID-19 Exposure



7. Management for Neonate with Suspected or Confirmed COVID-19 Exposure

SYMPTOMATIC NEWBORN



Reference: Wang L et al. Chinese expert consensus on the perinatal and neonatal management for the prevention and control of the 2019 novel coronavirus infection (First edition). *Ann Transl Med* 2020 | http://dx.doi.org/10.21037/atm.2020.02.20

8. Contact with Newborn for Pregnant Women with Suspected or Confirmed COVID-19 Infection

Based on Infection Prevention and Control (IPAC) Considerations for Pregnant Women with Influenza

- Check household contacts that will have contact with the baby (e.g. partner) – consider whether they will be infectious at the time of delivery, and ask them to seek care accordingly
- Individuals with an acute respiratory illness should not visit
- If there are children at home, counsel caregivers re: good hand hygiene and keeping ill children away from the newborn
- Discuss risks and benefits of direct contact with baby and breastfeeding:
    - IPAC recommendation for well neonates not in the NICU:
        1. Rooming in, skin to skin contact and breast feeding as usual.
        2. Mom puts on a clean mask and cleans her hands with alcohol-based hand rub before each contact with baby.
        3. Bassinette is kept more than 6 feet from mom's face if feasible at other times.

    - IPAC recommendations for neonates in the neonatal nursery:
        1. Decision to be made based on clinical status of neonate (i.e. unwell infant) and parental preference based on particular situation.
        2. No access to infant in neonatal nursery for mothers who are COVID-19 positive and/or at-risk caregiver. This would be re-evaluated as needed in cases where the infant is critically ill.

9. Feeding infants born to Mother with Confirmed or Suspected (PUI) COVID-19 Infection

Breast milk is the best source of nutrition for most infants. There remain however many unknowns about COVID-19. For that reason, families should participate in the decision to use breastmilk for infant feeding with the support of the healthcare providers. Whenever infants must be separated from their mother due to infection control restrictions, hospitals should **make every effort to provide access to a double-electric breast pump for the parent whose long-term plan is to breastfeed**.

- **Well near-Term or term Infants rooming with their mother**
  The feeding options are:

    1. Breastfeeding
       A symptomatic mother with confirmed or suspected infection should take all possible precautions to avoid spreading the virus to her infant, including washing her hands before touching the infant and wearing a face mask, if possible, while feeding at the breast. If a mother and newborn do room-in and the mother wishes to feed at the breast, she should put on a facemask and practice hand hygiene before each feeding.

    2. Feeding expressed breastmilk by bottle
       If expressing breast milk with a manual or electric breast pump, the mother should wash her hands before touching any pump or bottle parts and follow recommendations for proper pump cleaning after each use. If possible, consider having someone who is well feed the expressed breast milk to the infant.

    3. Feeding infant formula by bottle
       For mothers who are unwell to breastfeed or to express breastmilk with a breast pump and also for mothers who have chosen formula to feed their infant.

- **Preterm infants, Ill or well near-term or term infants separated from their mother**
  The feeding options are:

    1. Feeding expressed breastmilk by bottle or OG/NG
       For near-term and term infants where the mother is well enough to express breast milk with a manual or electric breast pump, the mother should wash her hands before touching any pump or bottle parts and

follow recommendations for proper pump cleaning after each use. If possible, consider having someone who is well feed the expressed breast milk to the infant.

2. Feeding donor breastmilk
   For infants who qualify for donor breastmilk as per current NICU feeding guidelines.

3. Feeding infant formula
   For mothers who are unwell to breastfeed or to express breastmilk with a breast pump and also for mothers who have chosen formula to feed their infant.

During temporary separation, mothers who intend to breastfeed should be encouraged to express their breast milk to establish and maintain milk supply. Prior to expressing breast milk, mothers should practice hand hygiene. 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.

Reference

https://www.cdc.gov/coronavirus/2019-ncov/hcp/inpatient-obstetric-healthcare-guidance.html

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