# COVID-19 Infection in Pregnancy

## *Executive summary*

## Introduction

Current evidence suggests that pregnant women are not at a greater risk of contracting SARS-CoV-2 infection than the general population. However, if they do, they can be at an increased risk of severe illness like pneumonia, hypoxia and ARDS, especially at later gestations. Despite this increased risk, most will have no symptoms or a mild cold/flu-like illness from which they will make a full recovery.

There is also unclear evidence of vertical transmission in limited studies. Hence, it is important to take further precautions against this. At present, there are no known effective treatments for COVID19 and antiviral medications should only be given as part of a clinical trial.

## Target users

* Doctors
* Nurses

## Target area of use

* OPD
* Ward

## Key areas of focus / New additions / Changes

## Limitations

## Risks of COVID-19 in pregnancy

### Effect on mother

* Potential for increased risk of severe illness, especially after 28 weeks’ gestation (third trimester).
* There is accumulating evidence that COVID19 results in an increased risk of preterm delivery for maternal medical reasons.

### Effect on foetus

* From limited evidence, no increased risk of miscarriage or early pregnancy loss.
* No current evidence for intrauterine infection, abnormal foetal development or teratogenicity.
* In at least one report, foetal compromise and prelabour preterm rupture of membranes although this association is not established.

## General Advice for patients:

* Strict observation of social distancing, especially when above 28 weeks’ gestation. Avoid any social mixing in the community, e.g. having friends and family visiting the house, avoid public transport and work from home.
* Identify the escort for delivery early and identify a primary support person for the puerperal period (6-8 weeks), ideally the same person.
* Should it be necessary to seek care, firstly use the telephone to contact health services instead of visiting in person.
* Avoid contact with confirmed COVID-19 cases or those with possible symptoms, especially when above 28 weeks’ gestation.
* Do not reduce the number of antenatal visits without first discussing and agreeing with your maternity team.
* Do not bring children when you attend appointments.
* Defer appointments until 7 days after the start of symptoms, unless the symptoms persevere (aside from persistent cough).
* Defer appointments for 14 days if self-isolating because someone in your household has possible COVID-19 symptoms.
* Even if previous tests were negative for COVID-19, if you re-present with symptoms, COVID-19 should be tested for again

## General management of all pregnant women with COVID-19

### Antepartum

See flowchart for outpatient assessment. Avoid admission if possible:

* Prescribe symptomatic treatment e.g. paracetamol.
* Initiate self-isolation at home.
* Defer appointments until 7 days after the start of symptoms, unless the symptoms persevere (aside from persistent cough).

Advise:

* to seek urgent care if symptoms deteriorate.
* on what to do once labour sets in or membranes rupture (how and when to come to the health facility).

Once COVID-19 is confirmed, arrange for ultrasound to monitor foetal growth. Although there is no evidence for foetal growth restriction (FGR), two thirds of pregnancies with SARS had FGR and placental abruption occurred in a MERS case.

### Intrapartum

In labour and vaginal delivery, PPE is required by all healthcare professionals caring for woman with suspected or proven COVID-19 to prevent droplet spread – gloves, apron, gown, fluid resistant surgical mask (FRSM) with visor to protect eyes as per SOP-AIR-001.

The mode of birth is as per obstetric presentation. It is not influenced by presence of COVID-19, except for avoiding water birth. All obstetric complications can be managed as per standard practice, taking precautions for aerosolising techniques and wearing appropriate PPE.

Women should stay at home during early (latent phase) of labour, contact health facility. They should deliver at an obstetric unit, in an isolation room.

* **Delivery escort/partner**
  + If asymptomatic: wear a facemask and wash hands frequently.
  + If symptomatic: to remain in self-isolation and cannot attend the health facility
* **Admission** 
  + Inform obstetrician, anaesthetist, midwife-in-charge, neonatologist and infection control team.
  + PPE required by all healthcare professionals caring for woman.
  + Take woman and escort to isolation room/delivery room.
* **Monitoring**
  + Open partogram.
  + Frequent temperature, respiratory rate, SpO2 aim > 94% - if possible hourly.
  + Foetal heart rate - CTG if possible or done after every contraction.
* Epidural or spinal analgesia is possible.
* Delayed cord clamping is recommended.
* Third stage of labour is proceeded as per normal protocols i.e. active management with controlled cord traction and prophylactic uterotonics e.g. 10 units IV oxytocin or 1 ml syntometrine intramuscularly or ergometrine.

Recommendations for conducting Caesarean Sections:

* General anaesthesia – all staff in theatre should wear PPE, including FFP3 mask before GA is commenced, with scrub team scrubbed up.
* Regional anaesthesia – all staff not required for siting of the regional anaesthesia should stay outside the theatre till the block is effective, then don PPE with FRSM.
* Number of staff in the operating theatre should be kept to a minimum, and all must wear appropriate PPE.
* For elective caesarean sections and planned inductions of labour, make an individual assessment on whether it is safe to delay the appointment to minimise transmission to other women, healthcare workers and postnatally, to her infant.

### Postpartum

Keep women and well infants together. Advise hand washing before usual mother-baby interactions e.g. feeding, changing nappy, holding.

Breastfeeding is advised as the benefits outweigh the potential risks of close contact with mother. There is no current evidence of presence of virus in breastmilk and stopping breastfeeding is a risk to the newborn.

* Avoid coughing or sneezing on the baby.
* Consider wearing a face mask while breastfeeding.
* Consider asking well escort to feed expressed milk to the baby.

For babies < 2000 g, encourage KMC unless there is a clinical reason to stop.

## Management of pregnant women with moderate/severe COVID-19

### Antepartum

Admit to an obstetric unit in an isolation room.

Monitoring and diagnostics:

* frequent temperature, respiratory rate, SpO2 – if possible hourly.
* Consider cardiotocogram (CTG) if >34 weeks. The frequency and suitability of CTG should be considered on an individual basis, taking into concern the maternal condition and gestational age of foetus.
* Perform Chest X-ray once if indicated e.g. acute respiratory symptoms, hyoxia or suspected pulmonary embolism, and not to be delayed due to foetal concerns. Abdominal shielding can be used as per normal protocols to protect foetus.

Treatment:

* If hypotensive, cautious trial of 250-500mls IV fluid bolus before proceeding with further fluids.
* No changes to usual indications for antenatal steroids, magnesium sulfate, tocolytics. There is no evidence that steroids for foetal lung maturation cause any harm in the context of COVID-19 and should still be given to women in preterm labour, if available.

Before discharge:

* Following an initial period of improvement in the woman’s condition, consider observation for 24-48 hours further as she may rapidly deteriorate.
* After resolution of symptoms, arrange ultrasound for foetal growth.
* Advise to return if she becomes more unwell.

### Intrapartum

Maternal stabilisation before delivery is essential, as in other obstetric emergencies.

If delivery is anticipated or indicated, transfer should be made to the closest obstetric unit with surgical capacity. They should be notified in advance to allow for adequate preparation.

In addition to the general advice:

* Open fluid input/output chart – hourly, if possible.
* Consider instrumental delivery if women is becoming exhausted or hypoxic.
* If the woman’s symptoms are deteriorating, proceed to emergency CS, if the delivery would be quicker than vaginal, to assist efforts to resuscitate her.

### Post partum

In addition to the general advice:

Encourage and support mother and baby to be together. Consider separating mother and baby partially or completely (e.g. discharging baby home before unwell mother) only after taking into account limited local capacity, disease severity, psychological wellbeing, parental preferences, if method exists to feed baby e.g. bottle or cup feeding.

## Advice for pregnant healthcare workers

At any gestation, they should be offered the choice of whether or not they wish to work in direct patient-facing roles and should discuss work arrangements with their line manager.

Less than 28 weeks pregnant and without underlying health conditions e.g. heart or lung disease:

* Practice social distancing
* Where possible, avoid caring for patients with suspected or confirmed COVID-19

More than 28 weeks pregnant, or have underlying health conditions:

* Recommended to work from home
* Avoid patient contact in general
* Avoid contact with anyone with symptoms of COVID-19
* Significantly reduce unnecessary social contact

## References

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## Outpatient Assessment of Pregnant Women with Suspected or Confirmed COVID-19

