



Guidance for neonatal services

Coronaviruses are a large group of viruses that can cause illnesses ranging from a mild common cold to severe disease such as Severe Acute Respiratory Syndrome (SARS Co-V). The novel coronavirus disease (COVID-19) was recently identified in December 2019 and is caused by the newly identified SARS CoV-2. Understanding the behaviour and impact of COVID-19 is still developing.

Current data indicates COVID-19 transmission occurs most commonly through person-to-person transmission in the form of respiratory droplets transmission [1]. The incubation period ranges between one to 14 days, with screening and containment measures being the most effective in slowing the virus spread [1-4].

The symptomology of COVID-19 is moderately severe in the general population but is highly transmissible. The clinical presentation of COVID-19 includes fatigue, fever and dry cough, with the symptoms generally milder in children than adults [2]. Infected neonates have remained stable with no reported severe emergency cases, symptoms have included fever, vomiting milk and shortness of breath [2].

Given neonates have underdeveloped immune system, they are considered susceptible to contracting the virus [5]. Current case studies suggest there is no evidence that COVID-19 transmission occurs from mother to neonate in in-utero (vertical) or via breastmilk [6-8]. However, available case studies are limited so caution must be taken when drawing conclusions.

Neonates may become infected with COVID-19 through contact with virus carriers or virus-infected carriers; these include caregivers, family members and medical staff. Therefore, medical staff should be vigilant in assessing neonates born to infected mothers or who have been in contact with infected family members [2].

These guidelines aim to outline procedures to:

- restrict mother-neonate COVID-19 transmission during labour, breastfeeding and neonatal care
- manage and support neonates that are positively diagnosed with COVID-19 or are suspected to be infected with COVID-19.

Definition of terms

BAU: Business as usual
CAHS: Child and Adolescent Health Service
CPAP: Continuous Positive Air Pressure
EC: Emergency Centre
ED: Emergency Department
EBM: Expressed Breast Milk
KEMH: King Edward Memorial Hospital
IPPV: Intermittent Positive Pressure Ventilation
IP&C: Infection Prevention and Control
IPU: Inpatient Unit
PPE: Personal Protective Equipment
NICU: Neonatal Intensive Care Unit (CAHS)
PCC: Paediatric Critical Care
PCH: Perth Children's Hospital
PFU: Patient Flow Unit
SCN: Special Care Nursery
VMS: Visiting Midwives Service

Version

Version	Notes	Date	Updated by:
V4	Combined recommendations for unwell or minimal signs of COVID-19 in confirmed or suspect neonates (fig 2).	24 Aug 2020	COVID 19 Neonatal Working Group
V3	Updated background information	02 July 2020	SHICC – Health Operations
V2	Updated information highlighted in yellow	14 April 2020	COVID 19 Neonatal Working Group
V1	First publication Endorsed by Liz McLeod	30 March 2020	Child and Adolescent Health Service

Figure 1: Neonate at delivery – vaginal or caesarean with confirmed or suspect COVID-19

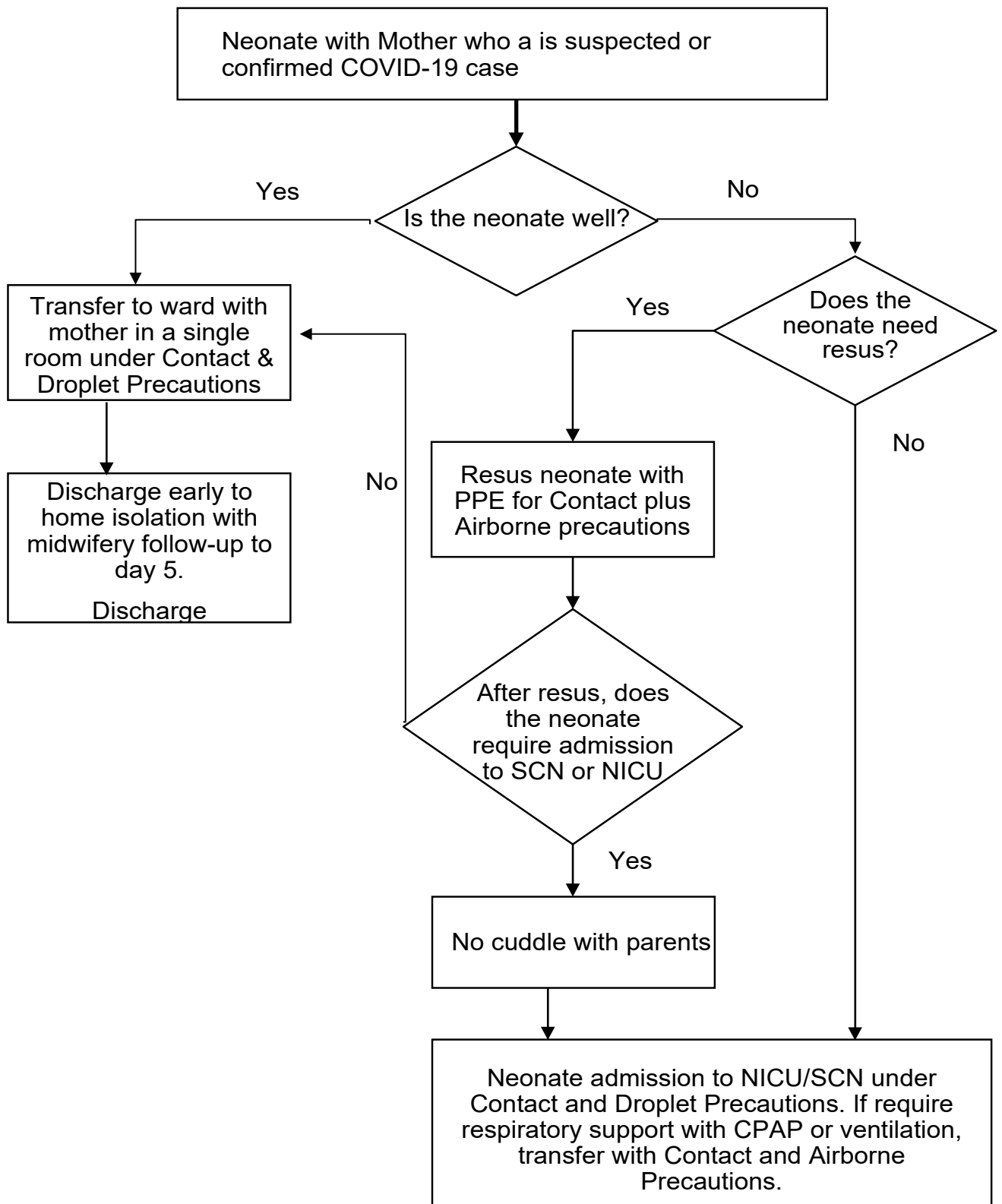
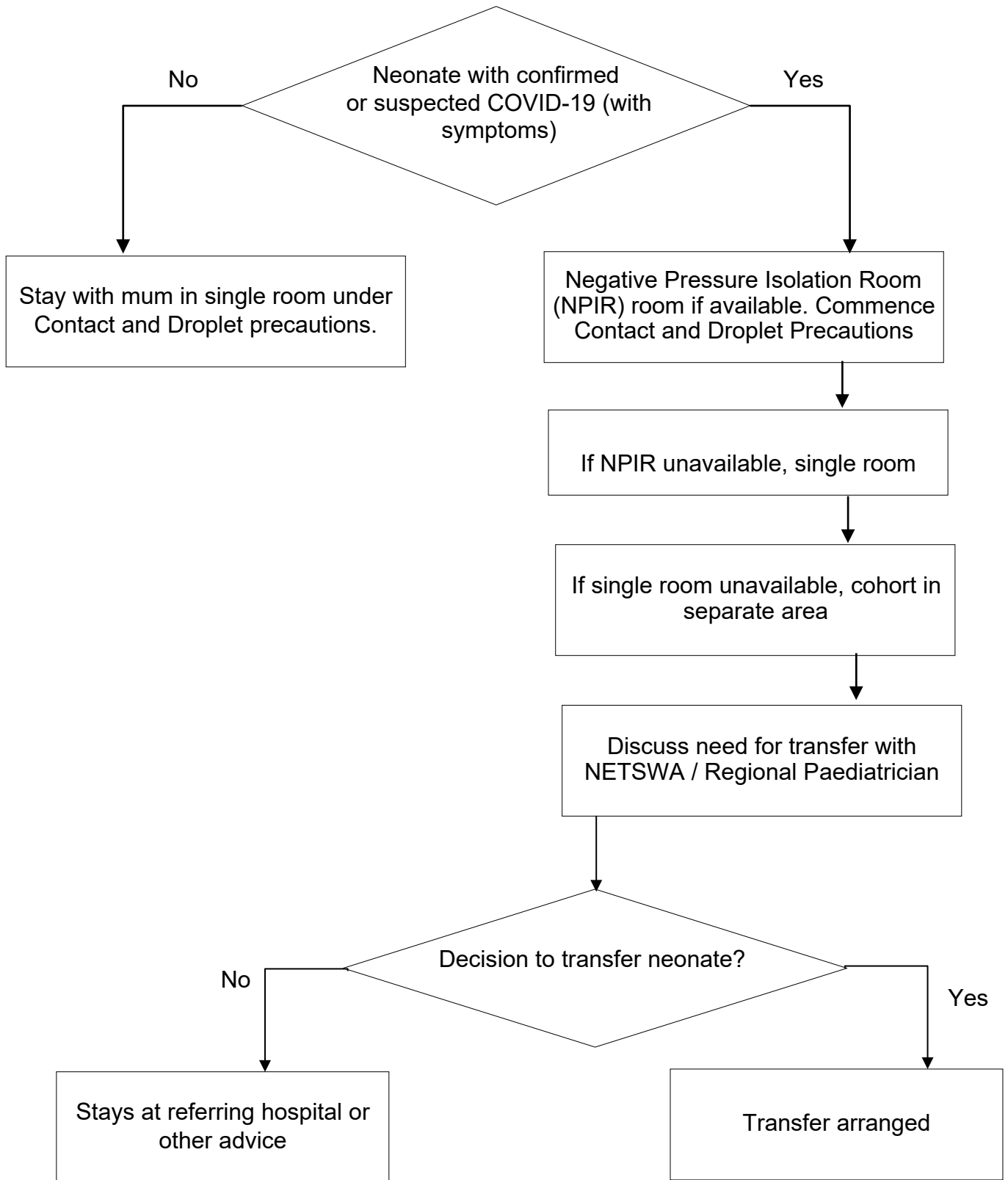


Figure 2: Neonate with confirmed or suspect COVID-19



Principles for neonatal services response

Neonatal guidelines for mothers with confirmed or suspect COVID-19 at delivery

Attendance in labour

[See Management of COVID-19 infection in pregnant women guidelines.](#)

Care in labour

[See Management of COVID-19 infection in pregnant women guidelines.](#)

Neonatal considerations

- A clinician capable of resuscitating a neonate should be present at delivery and wear Contact and Airborne PPE. Neonatal resuscitation, if required, can occur in same room as mother.
- If neonate needs admission to NICU or SCN, transfer after removing PPE and donning clean PPE (for neonates requiring respiratory support with CPAP or ventilation, use Contact and Airborne Precautions, for all other neonates use Contact and Droplet Precautions). Transfer baby in incubator if possible.
- If neonate is well, neonate to go to ward with mother both cared for in the same single room under Contact and Droplet Precautions. Transfer baby in incubator if possible.
 - Mother to wear surgical face mask when performing direct care or breastfeeding/feeding.
 - Mother to practice hand hygiene before and after handling the baby.
 - Mother requires education on respiratory etiquette.
 - Staff to monitor neonate with observations pre-feed.
 - Discharge home early – if mother COVID-19 positive, baby must be isolated at home for 14 days after mother is symptom-free.
- Routine testing of asymptomatic neonates is not recommended. Testing of symptomatic neonates should be done in consultation with local clinical microbiologist/infectious diseases physician. Symptomatic and supportive treatment are the mainstay of treatment.

Breastfeeding by mother confirmed or suspected COVID-19

[See Management of COVID-19 infection in pregnant women guidelines.](#)

Visitors to Neonatal Units

- Neonatal Units should review their visitor guidelines to minimise the number of visitors in the nursery, in line with the Department of Health's [COVID-19 Public hospital visitor guideline](#).

- Mothers who are suspected or confirmed COVID-19 positive (and their partners) should not be allowed into the Neonatal Unit to visit their baby.
 - However, there may be exceptional circumstances, such as when a neonate requires end of life care, where hospitals should reconsider this guideline on compassionate grounds, while taking into consideration the risk and benefits to all individuals involved.

Retrievals and inter-hospital transfer

- Confirmed or suspected COVID-19 alone is not an indication for transfer or retrieval.
- If a neonate requires an inter-hospital transfer, the decision whether a neonatal retrieval is required will be made via NETSWA call conferencing.
- If the neonate requires tertiary care, retrievals will proceed as per normal.
- Staff should follow current PPE practice for neonate retrievals of patients with viral disease.

Suspected or confirmed COVID-19 positive neonates – well or mild symptoms (see figure 2)

- Such neonates should be able to be cared for with their mothers in a single room.
- If admitted to Neonatal Unit they should be isolated in a single room, if available with Contact and Droplet Precautions and monitored clinically.
- An Infectious Diseases/Microbiology consultation is required
- Inform local Infection Prevention and Control unit.
- Neonates who are COVID-19 positive should have no visitors.
 - However, there may be exceptional circumstances, such as when a neonate requires end of life care, where hospitals should allow a visitor on compassionate grounds, while taking into consideration the risk and benefits to all individuals involved.
- Once the neonate's condition has improved and no longer requires care in the nursery, can be discharged home. Isolation must continue at home under the supervision of the local public health unit until neonate meets criteria for release as determined in the CDNA Guidelines.
- An information sheet should be given to parents.
- The neonate's room cannot be used by other patients before being adequately cleaned and disinfected.
- If the neonate shared a room with other neonates before being identified, all ward mates should be isolated. It might be done in a single room, without full NICU capabilities, according to local settings. Advice should be sought from a local clinical microbiologist/ID physician or IP&C team regarding whether other ward contacts require testing for COVID-19.

Suspected or confirmed COVID-19 positive neonates – unwell

Neonates who become COVID-19 positive and are unwell should be placed in:

- negative pressure isolation room (NPIR) under droplet and airborne precautions
- if negative pressure isolation rooms are unavailable, then consider single rooms
- if single rooms are unavailable, cohorting of suspected / positive neonates may need to be considered - confirmed cases should be kept separate to suspected cases
- neonates should be in incubators and managed under contact and airborne precautions
- infectious diseases/microbiology is to be consulted for all suspected or confirmed COVID-19 neonates
- neonates who are COVID-19 positive should have no visitors:
 - however, there may be exceptional circumstances, such as when a neonate requires end of life care, where hospitals should allow a visitor on compassionate grounds, while taking into consideration the risk and benefits to all individuals involved.
- if patient needs critical care, call NETSWA to discuss neonatal retrieval.

Emergency Department presentations of COVID-19 neonates

- Mothers and neonates requiring readmission for neonatal or obstetric care with suspected or confirmed COVID-19 are advised to phone ahead of their contact with their hospital to follow attendance protocols [7].

Post discharge management of neonate with suspected or confirmed with COVID-19

- Home visiting service to adhere to Contact and Droplet Precautions.
- Information sheet given to parents to include course of disease, criteria for clearance, signs of clinical deterioration and how to seek help, to be arranged by the local hospital.

Facility and workforce

General response

- Utilise specialist capacity for greatest benefit to the greatest number of babies.
- Postnatal services: continue inpatient services as clinically necessary. Redirect postnatal care for well babies to community based care where possible (e.g. home visiting midwifery service, GPs, Child health, privately practising midwives).

Isolation capacity

- Establish isolation capacity for women and their neonate clinically requiring admission or hospital based care.
- Inpatient and outpatient hospital based care will need isolation capacity for all areas for neonatal units.
- Consider isolation capacity relative to size of unit, Clinical Service Capability Framework

level and surge demand for isolation.

- Utilise designated single/multiple bay rooms for isolation.
- Provide full PPE equipment for ALL staff to use where required.

Acknowledgements

These guidelines are based on the current available knowledge of the transmission of coronaviruses and may change as more evidence becomes available specifically regarding COVID-19.

The Department of Health wishes to acknowledge the Queensland Health Department, *COVID-19 Guidance for Maternity Services* [3] Guidelines, the Royal College of Obstetricians and Gynaecologists [7] *Coronavirus (COVID-19) Infection in Pregnancy* Guidelines, and the Centre for Disease Control and Prevention, *Interim Considerations for Infection Prevention and Control of Coronavirus Disease 2019 (COVID-19) in Inpatient Obstetric Health Care Settings* Guidelines, upon which these Guidelines was developed.

These guidelines have been developed to be used in conjunction with the Department of Health's Management of COVID-19 *Infection in Pregnant Women* [9] Guidelines.

Resources

- [Management of COVID-19 Infection in Pregnant Women Guidelines](#)
- [COVID-19 Infection Prevention and Control in the Hospital Setting](#)
- [COVID-19 Guidelines for Outpatient Services](#)
- CDNA Guidelines [Coronavirus Disease 2019 interim advice to public health units](#)

References

1. Australian Government Department of Health, *COVID-19, Australia: Epidemiology Report 6 (Reporting week ending 19:00 AEDT 7 March 2020)*. Communicable Disease Intelligence (2018), 2020. 44.
2. Lu, Q. and Y. Shi, *Coronavirus disease (COVID-19) and neonate: What neonatologist need to know*. Journal of Medical Virology, 2020. Published online.
3. Queensland Health Department, *COVID-19 Guidance for Maternity Services*, Statewide Maternity and Neonatal Clinical Network, Editor. 2020: Queensland, Australia.
4. Lauer, S.A., et al., *The incubation period of 2019-nCoV from publicly reported confirmed cases: estimation and application*. medRxiv, 2020. Published online.
5. Wang, J., et al., *A contingency plan for the management of the 2019 novel coronavirus outbreak in neonatal intensive care units*. The Lancet Child and Adolescent health, 2020.
6. Centre for Disease Control. *Interim Considerations for Infection Prevention and Control of Coronavirus Disease 2019 (COVID-19) in Inpatient Obstetric Healthcare Settings*. 2020 [cited 2020 17 March]; Available from: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/inpatient-obstetric-healthcare-guidance.html>.
7. Royal College of Obstetricians and Gynaecologists. *Coronavirus (COVID-19) Infection in Pregnancy, Version 1*. 2020 [cited 2020 17 March]; Available from: <https://www.rcog.org.uk/en/guidelines-research-services/guidelines/coronavirus-pregnancy/>.
8. Chen, H., et al., *Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: a retrospective review of medical records*. Lancet, 2020. **395**(10226): p. 809-15.
9. Department of Health, *Management of COVID-19 Infection in Pregnant women*. 2020, Government of Western Australia: Perth, W.A

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