Management of COVID-19 infection in pregnant women

Statewide

Version 3, 31 August 2020
Flowchart: triage and risk assessment of suspected or confirmed COVID-19 women

For women identifying with symptoms: Screen before arrival where possible (e.g. by phone). Triage in location separate from usual admission routes. Recommend/provide surgical face mask at face-to-face assessment.

Review testing criteria
Perform clinical assessment

Inpatient hospital care indicated?

Is self-quarantine indicated?

Yes

No

Routine/usual care (for COVID-19 pandemic)

Is isolation indicated?

Yes

No

Notify maternity services ASAP

On admission/universal care
- Isolate
- Commence Contact & Droplet Precautions
- Alert midwifery/obstetric/neonatal/infectious diseases teams
- Limit visitors
- Symptomatic treatment as indicated

Retrieval/transfer
- COVID-19 positive alone not an indication

Antenatal
- Perform necessary medical imaging
- Foetal surveillance as clinically indicated
- Maternal surveillance and SpO2

Birth
- Negative pressure room (if possible)
- Mode of birth not influenced by COVID-19 unless urgent delivery indicated
- Early consideration of neuraxial blockade (to minimise risk from emergency GA)
- Lower threshold for escalation of clinical concerns

Co-location of mother and baby
- Co-location generally recommended
- Discuss risk/benefit with parents
- Determine need on individual basis

Feeding (breastfeeding or formula)
- Support maternal choice
- Breastfeeding not contraindicated

Risk minimisation strategies
- Inform about hand hygiene, sneeze and coughing etiquette, face mask use, close contact, social distancing and precautions during baby care, sterilisation

Self-isolation
- Advise to return home using personal transport (not public transport or ride sharing options)

Ongoing antenatal care
- Resume usual antenatal care after 14 days symptom free or negative test result
- Arrange alternate mode of antenatal care while self-isolated (if care cannot be delayed)
- Advise to telephone maternity service if concerned

COVID-19
- Advise about standard hygiene precautions
- Provide information about COVID-19 (e.g. fact sheet)

Do not
- Go out to school/work/public areas or use public transport

Do
- Stay indoors at home
- Avoid contact with visitors
- Ventilate rooms by opening windows
- Separate self from other household members

Return to defined restricted area
- 14 days isolation required to gain approval for entry into designated biosecurity areas from WA Police

Testing criteria

Close Contact
- More than 15 minutes face-to-face contact
- More than 2 hours in a closed space (including households)
Table of contents

Part one: Clinical care ................................................................. 5
1. Introduction ............................................................................... 5
   1.1 Background ........................................................................... 5
   1.2 Data collection ...................................................................... 6
   2.1 Perinatal mental health (for all women) ............................... 7
   2.2 Visiting in-patient mothers and babies ............................... 8
   2.3 Outpatient model of care (for all women) ......................... 8
   2.4 Home visiting during COVID-19 pandemic (for all women) .... 9
   2.5 Specific recommendations for maternity care (for all women) 9
   2.6 Routine postnatal care (for all women) .............................. 12
3. Risk management ..................................................................... 13
   3.1 Risk containment ............................................................... 13
   3.2 Risk assessment ................................................................. 14
   3.3 Testing ................................................................................. 15
   3.4 Self-isolation ...................................................................... 15
4. In hospital maternity care (if suspected or confirmed COVID-19) ...... 17
   4.1 Antenatal care while an inpatient (if confirmed or suspected COVID-19) 18
   4.2 Labour and birth (if suspected or confirmed COVID-19) .......... 19
   4.3 Postnatal care (if suspected or confirmed COVID-19) .......... 21
5. Confirmed COVID-19 with moderate to severe symptoms ............ 22
   5.1 Pregnant women admitted antenatally (with moderate to severe COVID-19) 22
   5.2 Woman with moderate to severe symptoms of confirmed COVID-19 requiring intrapartum care .................................................. 23
6. Newborn care .......................................................................... 24

Part two: Facility and workforce .................................................. 24
7. Framework for maternity services .......................................... 24
8. Capacity management for maternity and gynaecological services ........ 26
9. Staffing and workforce ............................................................. 27
10. Resources .............................................................................. 28
11. References ............................................................................ 28
12. Appendices ........................................................................... 32
   Appendix A: Modification of routine ultrasounds investigations in low-risk women .... 32
   Appendix B: Screening and diagnosis of GDM during COVID-19 pandemic ......... 33
   Appendix C: Guidance for PPE use by HCWs providing direct patient care ....... 34
   Appendix D: COVID-19 in pregnancy .............................................. 35
   Appendix E: COVID-19 and breastfeeding ........................................ 38
   Appendix F: Information for COVID-19 women in labour (suspected or confirmed) .... 40

health.wa.gov.au
Abbreviations
BP: Blood pressure
CTG: Cardiotocograph
ED: Emergency department
GDM: Gestational Diabetes Mellitus
GBS: Group B Strep infection
HCW: Health care worker
IP&C: Infection prevention and control
MDT: Multidisciplinary team
PPE: Personal protective equipment
WACHS: Western Australia Country Health Service

Version control

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.0</td>
<td>3 August 2020</td>
<td>• Removed 2nd and 3rd stage labour with reference to PPE.</td>
</tr>
<tr>
<td>2.0</td>
<td>24 April 2020</td>
<td>• Amended structure to present information in table format and divide into two parts Clinical care and Facility and Workforce.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Included information on data collection to provide guidance on reporting COVID-19 infection to the Midwives Notification System (see 1.2).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Included considerations for the delivery of maternity care for all women during the COVID-19 pandemic (See Section 2).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Included information about PPE use for 2nd and 3rd stage labour for women with confirmed or suspected COVID-19 women in labour (Table 9).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Included information on testing for COVID-19 (Table 11)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Included information on medical imaging and threatened pre-term labour for women with suspected or confirmed COVID-19 (Table 14)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Included information on additional considerations for pregnant women who are moderately or severely unwell due to confirmed COVID-19 infection (See Section 5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Included Appendix A - Modification of routine ultrasounds investigations in low-risk women</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Included Appendix B - Screening and diagnosis of GDM during COVID-19 pandemic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Included Appendix D - COVID-19 in pregnancy (fact sheet)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Included Appendix E - COVID-19 and breastfeeding (fact sheet)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Included Appendix F - Information for COVID-19 women in labour (suspected or confirmed) (fact sheet)</td>
</tr>
</tbody>
</table>
Part one: Clinical care

1. Introduction
There is limited data and evidence about the effects of COVID-19 during pregnancy. 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.

1.1 Background

Table 1. COVID-19

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Consideration</th>
</tr>
</thead>
</table>
| **Coronavirus** | • Coronavirus is the broad name for a type of virus. There are different kinds of coronaviruses (e.g. common cold, severe acute respiratory syndrome (SARS), Middle Eastern Respiratory Syndrome (MERS))  
  • SARS-CoV-2 is the name of the virus (a type of coronavirus) first identified in Wuhan, China in late 2019  
  • COVID-19 is the disease caused by SARS-CoV-2 |
| **Onset** | • Median time from onset to clinical recovery (non-pregnant cases)\(^1\)  
  o Mild cases approximately 2 weeks  
  o Severe or critical cases 3–6 weeks |
| **Transmission of COVID-19** | • Most likely spread from person to person through close contact with an infected person’s cough or sneeze or by touching objects or contaminated surfaces and then touching the mouth or face  
  • Vertical transmission has not been convincingly demonstrated from current data.  
  o Three babies\(^2,3\) reported to have SARS-CoV-2 IgM in serum. As IgM does not cross the placenta, and usually does not appear until 3–7 days after infection, in-utero infection may have occurred.  
  • No detectable viral DNA found in amniotic fluid, serum, placenta or breast milk\(^4\) or vaginal fluid\(^5\) (although few women have been tested)  
  • There are anecdotal reports of positive SARS-CoV-2 nucleic acid testing from vaginal swabs and faeces  
  • SARS-CoV-2 has been detected in stools\(^6–8\) |
| **Physiology of pregnancy and COVID-19** | • Pregnant women do not appear to be at increased risk of severe COVID-19 compared to the non-pregnant population  
  • There is no evidence currently that the virus is teratogenic nor would this be expected based upon the effects of other coronaviruses  
  • There are currently no convincing data suggesting an increased risk of miscarriage or early pregnancy loss in relation to COVID-19  
  • Immunosuppression of pregnancy may impact severity of symptoms\(^9\)  
  • Due to physiological changes, when compared with their non-pregnant counterparts, pregnant women with lower respiratory tract infections may experience worse outcomes\(^10,11\) (e.g. preterm birth, fetal growth restriction and perinatal mortality)  
  • Increased oxygen demands of pregnancy may increase risk of respiratory compromise in infected pregnant women |
1.2 Data collection
To help inform future care and understanding of the COVID-19 disease, data is needed.

Table 2. Midwives Notification System

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Consideration</th>
</tr>
</thead>
</table>
| **Midwives Notification System** | • Perinatal databases (Stork for public maternity services, local systems for private maternity services) will continue to be used to notify the Chief Health Officer of births attended as described at [Midwives Notification System](#).
  • The diagnosis of COVID-19 with or without symptoms (or symptomatic and awaiting test results) during pregnancy or the birth event should be recorded as COVID-19 (coronavirus) and reported as an “other” item value of 026 in medical conditions during pregnancy. |
| **Other data collection systems** | • Hospitalisation events will be described in the Hospital Morbidity Data Collection and will be later linked with midwives notifications of births.                                                                 |
2. Maternity care during COVID-19 pandemic

This section applies to all pregnant women irrespective of COVID-19 status.

2.1 Perinatal mental health (for all women)

Table 3. Considerations for perinatal mental health

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Consideration</th>
</tr>
</thead>
</table>
| Context                     | • Isolation, bereavement, financial difficulties, insecurity and inability to access support systems are all widely recognised risk factors for mental ill-health  
• The coronavirus epidemic increases the risk of perinatal anxiety and depression, as well as domestic violence. It is critically important that support for women and families is strengthened as far as possible; that women are asked about mental health at every contact; and that women are urged to access support through remote means as far as possible  
• Pregnant women and their families are likely to experience heightened anxiety and stress related to the COVID-19 pandemic in the community  
• Current limitations in the evidence about the effects of the disease in pregnancy and on the newborn are also likely to be significant stressors  
• This can be assumed irrespective of personal COVID-19 status (negative, suspected, or confirmed)  
• The long-term implications for mental health may lead to significant human and resource issues in the future |
| Strategies                  | • Provide consistent information to women and their families (refer to WA Health resources such as Coronavirus)  
• Ask women about their mental health at every contact  
• Adhere to usual/standard care recommendations (e.g. women centred care, respectful communication, consent and informed decision making) |
| Model of care               | • Support models of care that maximise continuity (e.g. midwifery continuity of care, case management, midwife navigator, general practitioner (GP), private practice midwives or cultural supports such as health worker or a community organisation) |
| Domestic / family violence  | • Maintain an awareness that domestic and family violence may increase in association with social distancing and self-isolation  
• Screen and refer as appropriate  
• If screening via telehealth or phone – ensure woman is alone or not on speaker phone where the questions being asked could be overheard |
| Follow-up                   | • Offer referral to perinatal mental health support (e.g. social work, mental health teams, peer support groups)  
• Liaise with community health practitioners (e.g. general practitioner, private midwife, child health nurse) throughout the perinatal period |
### 2.2 Visiting in-patient mothers and babies

Table 4. Hospital visiting

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visitor restrictions</td>
<td>• Advise women about the need and rationale for visitor restrictions to facilitate advance planning and manage expectations for care&lt;br&gt;• Limit number of visitors to minimise potential for virus spread&lt;br&gt;• Refer to the WA COVID-19 Public hospital visitor guidelines&lt;br&gt;• It is a requirement that all visitors entering a hospital environment adhere to key government recommendations regarding COVID-19</td>
</tr>
<tr>
<td>During labour and birth</td>
<td>• Each individual site is to consider a support person during birth on a case-by-base basis</td>
</tr>
</tbody>
</table>

### 2.3 Outpatient model of care (for all women)

Table 5. Outpatient maternity framework

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triage to model of care</td>
<td>On referral, sites need a process to triage women to the most appropriate model of care:&lt;br&gt;• Low risk – midwifery only&lt;br&gt;• High risk – GP Obstetrician or Obstetrician&lt;br&gt;• Midwifery Group Practice, if available</td>
</tr>
<tr>
<td>Require physical visit</td>
<td>Location options:&lt;br&gt;• Outpatient clinic with own access&lt;br&gt;• Community based service (dedicated GP obstetrician or private midwife)&lt;br&gt;• Health service community building&lt;br&gt;• Home visit&lt;br&gt;Physical visit process:&lt;br&gt;• Immediately prior visit – phone to screen for COVID-19 risks&lt;br&gt;• Day prior to visit – phone or video call (VC) to assess need including history taking and explanation for physical appointment process&lt;br&gt;• For hospital visits – patient to wait outside building until called in (e.g. in personal car or safe social distance in grounds)&lt;br&gt;• Limit face to face visit to 15 mins only for physical necessity (i.e. CTG, USS, BP, baby weight, etc)&lt;br&gt;• Follow-up after visit – phone or VC to discuss results and care options, management plan, education, etc</td>
</tr>
<tr>
<td>Does not require physical visit</td>
<td>Options:&lt;br&gt;• Phone or VC – see resources below for telehealth options</td>
</tr>
</tbody>
</table>
## 2.4 Home visiting during COVID-19 pandemic (for all women)

Table 6. Home visiting during COVID-19 pandemic

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Consideration</th>
</tr>
</thead>
</table>
| **General principles**     | • Use clinical judgement and consider individual circumstances when determining most appropriate model of healthcare delivery (i.e. is a home visit necessary)  
  o Hybrid models of care delivery (e.g. combination of telehealth and home visit) may assist in minimising contact duration  
  • Use advance planning to identify and:  
    o Prepare for the care likely to be required during the home visit  
    o Minimise equipment to be taken into the home  
    o Maintain infection prevention and control standards (e.g. hand hygiene, disposal of consumables, equipment cleaning, social distancing) |
| **Pre-visit assessment**   | • Prior to entering the woman’s home, assess the clinical status and social circumstances of the woman and other residents at the home (e.g. by phone, telehealth)  
  • Use standard home visiting risk assessment tools and additionally ask:  
    o Do any residents have symptoms of COVID-19?  
    o Are any residents in self isolation?  
    o Are there additional safety issues for the healthcare provider and/or the woman that may arise/be exacerbated by the COVID-19 pandemic or the home visit? (e.g. domestic and family violence, alcohol or substance use, high mobility of household residents)  
  • If risk of transmission or safety concerns identified, postpone the home visit  
    o Reschedule/make alternative arrangements as required |
| **During visit**           | • If the woman and other home residents asymptomatic and not in self- isolation, personal protective equipment (PPE) (related to COVID-19 transmission) not required  
  • Maintain social distancing (1.5 metre from the woman) during the visit where possible (e.g. ask other family members to leave the room during visit)  
    o Follow standard infection prevention and control recommendations as required for usual care |

## 2.5 Specific recommendations for maternity care (for all women)

Table 7. Specific considerations for maternity care

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Strategy</th>
</tr>
</thead>
</table>
| **Individualise care** | • Maternity care has been shown repeatedly to be essential, and studies in the UK and internationally have shown that if women do not attend antenatal services they are at increased risk of maternal death, stillbirth, and other adverse perinatal outcomes[^14]  
  • On referral, sites need a process to triage women to the most appropriate model of care:  
    o Low risk – midwifery only |

[^14]: Overleaf
<table>
<thead>
<tr>
<th><strong>Healthcare Options</strong></th>
<th><strong>Outpatient Clinic</strong></th>
</tr>
</thead>
</table>
| **Modes of outpatient care** | - Outpatient clinic with own access  
- Community based service (dedicated obstetric GP or private midwife)  
- Health service community building  
- Phone or VC  
- Home visit  

**Physical outpatient visits** | - Immediately prior visit – phone to screen for COVID-19 risks  
- Day prior to visit – phone or video call (VC) to assess need including history taking and explanation for physical appointment process  
- For hospital visits – patient to wait outside building until called in (e.g. in personal car or safe social distance in grounds)  
- Limit face to face visit to 15 mins only for physical necessity (i.e. CTG, USS, BP, baby weight, etc)  
- Follow-up after visit – phone or VC to discuss results and care options, management plan, education, etc  

**Antenatal education classes** | - No group face to face classes  
- Develop options for online / telehealth antenatal education classes to maintain engagement and encourage parent networking  

**Booking visit (phone or VC)** | - Alternate plans should be considered to provide required paperwork via post or secure email systems prior to booking process  
- The booking in and risk stratification process for pregnant women must be done with a clinician (e.g. midwife)  
- Psychosocial screening must be completed; domestic violence screening should be deferred to a face-to-face visit  
- Test results should be given over the phone or by secure messaging  
- Abnormal results should be given face-to-face or via secure video  
- Women with specific vulnerabilities or risks (e.g. CALD, Aboriginal women with mental health or drug and alcohol issues) should not be disadvantaged and all efforts should be made to ensure that services are enhanced to support these women  
- Care planning needs to take into consideration the risk factors identified, the context and the woman’s preferences  

**20 and 24 weeks (phone or VC)** | - Face-to-face if significant risk factors  
- Consider offering flu and pertussis vaccinations at this visit for women at risk of preterm birth  

**28 weeks (face-to-face)** | - Comprehensive assessment of maternal and fetal wellbeing (including weight, BP and urinalysis)  
- Review care plan  
- Review and discuss usual screening investigations (e.g. Glucose Tolerance Test, Full Blood Count)  
- Review and discuss usual vaccinations: seasonal flu and pertussis  
- Offer Anti-D for Rhesus negative women  

**32 weeks (phone or VC)** | - Face-to-face if significant risk factors
| 37 weeks (face-to-face) | • Comprehensive assessment of maternal and fetal wellbeing (including weight, BP and urinalysis)  
• Check fetal presentation (using point of care ultrasound if available)  
• Review care plan  
• Review and discuss screening tests (e.g. Full Blood Count)  
• Review Anti-D prophylaxis for Rhesus negative women  
• RANZCOG states that either universal screening for GBS or risk-based approaches are both acceptable strategies  
• Risk based approached minimises patient contact time and specimen handling /processing. Refer to WACHS Maternal and Newborn Sepsis policy (internal link) |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>38 weeks (phone or VC)</td>
<td>• Face-to-face if significant risk factors</td>
</tr>
</tbody>
</table>
| 40-41 weeks (face-to-face) | • Comprehensive assessment of maternal and fetal wellbeing (including weight, BP and urinalysis)  
• Check fetal presentation (point of care ultrasound if available)  
• Bishop score if indicated  
• Review care plan |
| Induction of labour | • Only clinically sound indications  
• Consider whether pregnancy can be safely prolonged / induction of labour deferred  
• Bishop score prior to induction of labour |
| CTG | • Physical visit for duration of CTG |
| Ultrasound | • For guidance on routine ultrasound in low risk woman (without any pre-existing maternal or fetal comorbidities), refer to Appendix A: Modification of routine ultrasound investigations in low-risk women  
• If clinical concerns, use clinical judgement and seek expert advice |
| GBS | • RANZCOG states that either universal screening or risk-based approaches are both acceptable strategies  
• WACHS policy is now clinical-risk based only, see WACHS Maternal and Newborn Sepsis policy (internal link). This policy minimises patient contact time and specimen handling  
• Metro area and private practitioners may offer patient choice of either approach see, see RANZCOG patient information |
| GDM | • Refer to: Diagnostic Testing for Gestational diabetes mellitus (GDM) during the COVID 19 pandemic: Antenatal and postnatal testing advice  
  o Aims to support social distancing during the COVID-19 pandemic  
• Also refer to Appendix B: Screening and diagnosis of GDM during COVID-19 pandemic |
| Maternal haemoglobin | • Optimise haemoglobin prior to birth to minimise morbidity associated with blood loss and the subsequent need for blood products (which may be in short supply during the pandemic)  
• Refer to Lifeblood (Australian Red Cross) Toolkit for Maternity Blood Management |
Vulnerable women

- Women with co-morbidities (e.g. obesity, gestational diabetes, pre-eclampsia) may be at increased risk for severe COVID-19 disease\(^\text{16}\)
  - Seek expert clinical advice early in the pregnancy to plan care
  - Refer to the Royal College of Obstetricians Guidance for maternal medicine in the evolving coronavirus (COVID-19) pandemic\(^\text{14}\)
- Aboriginal and/or Torres Strait Islander women, and other vulnerable groups may be more severely impacted
  - Involve appropriate culturally relevant supports as required

2.6 Routine postnatal care (for all women)

Table 8. Routine postnatal care

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Strategy</th>
</tr>
</thead>
</table>
| Before discharge        | • A thorough clinical risk assessment should be performed including VTE and the specific care needs for women with vulnerabilities (e.g. mental health, substance use etc.)
  | • Where possible for newborn – Vitamin K, Hep B, hearing screen and cardiac screen |
| Early discharge         | • Promote early discharge with home follow-up which may be via phone, VC or short physical visit dependent on individual needs or risks
  | • All women/babies to receive daily assessment until minimum day 5 |
| Essential face-to-face visit | • BP if pre-eclampsia
  | • Newborn bloodspot screening (Guthrie test), combine with weight visit at 48-72 hours
  | • Day 3 weight for babies at risk
  | • Day 5 weight and discharge
  | • Early or symptomatic jaundice requires blood test |
3. Risk management

3.1 Risk containment

Table 9. Containment and risk minimisation

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Consideration</th>
</tr>
</thead>
</table>
| Containment                 | • Aims to slow the spread of the virus, reduce peak demand on health care services and allow care to be provided to more women and their families during the outbreak\(^\text{17}\)  
  • If a woman is confirmed or suspected of COVID-19:  
    o Screen for COVID before arrival (e.g. by phone, telehealth)  
    o Triage in a location separate from usual hospital routes of admission or assessment  
    o Provide and recommend use of surgical face mask to woman at face-to-face contact |
| Infection prevention and control | • Follow WA Health recommendations and public alerts for IP&C, isolation, specimen collection and use of PPE  
  • Refer to WA Infection Prevention and Control in Western Australian Healthcare Facilities. |
| PPE recommendation          | • For routine maternity care of women with confirmed or suspected COVID-19 (including early labour and birth), use droplet, contact and standard precautions  
  o Surgical mask, long-sleeved fluid-resistant gown, gloves and eye protection (face shield or goggles)  
  • During aerosol-generating procedures (such as intubation) use airborne, contact and standard precautions:  
    o Fit checked P2 or N95 face mask, long sleeved fluid-resistant gown, gloves, eye protection (face shield or goggles) |
| Risk minimisation strategies | • Recommend and inform women and their families about:  
  o Hand-hygiene with soap and water for 20 seconds or with alcohol-based hand sanitiser/gel  
  o Face mask use  
  o Coughing and sneezing into elbow  
  o Social distancing (stay 1.5 metres from other people) and avoid close contact  
  o Using dedicated personal equipment and resources  
  o Cleaning and sterilisation of surfaces and equipment  
  o Rationale for visitor restrictions (to reduce the potential for spread of virus)  
  o Importance of risk minimisation strategies for postnatal baby care |
### 3.2 Risk assessment

Table 10. Risk assessment

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Consideration</th>
</tr>
</thead>
</table>
| Risk factors    | - Signs and symptoms of acute respiratory infection  
|                 |   - After exposure: mean incubation 5–6 days, range 1–14 days\(^1\)  
|                 |   - Asymptomatic infection to very severe manifestation reported in pregnant women\(^1,18\)  
|                 | - Close contact with a confirmed or suspected case  
|                 | - Return from interstate or international travel or cruise ship voyage within last 14 days  
|                 | - Aboriginal and/or Torres Strait Islander women may be more severely impacted  
|                 | - Disease severity is increased by smoking, presence of co-morbidities (e.g. obesity, diabetes, cardiac or renal disease, immunosuppression)                                                                 |
| Close contact   | - More than 15 minutes face-to-face contact  
|                 | - More than 2 hours in a closed space (including households)                                                                                                                                               |

<table>
<thead>
<tr>
<th>Sign / symptom</th>
<th>Frequency (%) n=55,924*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fever (&gt;38 °C)</td>
<td>87.9</td>
</tr>
<tr>
<td>Dry Cough</td>
<td>67.7</td>
</tr>
<tr>
<td>Fatigue</td>
<td>38</td>
</tr>
<tr>
<td>Sputum production</td>
<td>33.4</td>
</tr>
<tr>
<td>Shortness of breath</td>
<td>18.6</td>
</tr>
<tr>
<td>Muscle or joint pain</td>
<td>14.8</td>
</tr>
<tr>
<td>Sore throat</td>
<td>13.9</td>
</tr>
<tr>
<td>Headache</td>
<td>13.6</td>
</tr>
<tr>
<td>Chills</td>
<td>11.4</td>
</tr>
<tr>
<td>Nausea or vomiting</td>
<td>5</td>
</tr>
<tr>
<td>Nasal congestion</td>
<td>4.8</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>3.7</td>
</tr>
</tbody>
</table>

\(^1\)data from non-pregnant confirmed positive cases
3.3 Testing
Table 11. COVID-19 testing

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indications</td>
<td>• Follow CURRENT WA Health recommendations for testing at COVID-19 Information for health professionals. These are being updated frequently</td>
</tr>
</tbody>
</table>
| Sample collection| • Follow current WA Health recommendations for specimen collection  
• Collect a single nasopharyngeal and oropharyngeal swab (use same swab for both sites)  
  o Use viral transport medium (VTM) or Liquid Amies. Dry swabs not recommended  
• If productive cough, collect sputum (potentially contains highest viral loads)  
• If confirmed positive COVID-19, collect blood sample (for storage pending serological availability)  
• Include prioritisation requirements (e.g. unwell/symptomatic) to assist laboratory processing and prioritisation |

3.4 Self-isolation
Table 12. Self-isolation

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Consideration</th>
</tr>
</thead>
</table>
| Definition       | • Self-isolation means you must stay in your home, hotel room, or other accommodation even if you are perfectly well with no symptoms. If you live in a unit or apartment block you must stay in your unit or apartment. You cannot attend public places such as work, school, shopping centres or go on a holiday. Only people who usually live with you should be in the home. Do not see visitors.  
• You must stay in your place of isolation and NOT GO OUT, except to seek medical care. |
| When to recommend| • Self-isolate for 14 days if:  
  o tested positive for COVID-19, you must self-isolate in your home (or other suitable accommodation) until you have been told you can be released from isolation  
  o been tested for COVID-19, you must isolate yourself in your home (or other suitable accommodation) while you are waiting for your result  
  o been in close contact with a confirmed case of COVID-19, you must isolate yourself in your home (or other suitable accommodation) for 14 days after the date of last contact with the confirmed case  
  o arrived into Western Australia from interstate by air, sea, rail or road in the last 14 days, you must self-isolate in your home (or other suitable accommodation) for 14 days from the date of arrival (some exemptions may apply)  
  o returned from overseas in the last 14 days, you will be subject to mandatory self-isolation for 14 days at your first Australian destination. Suitable accommodation will be made available. |
You will not be permitted to return home or transit to another state until your 14 day self-isolation period is completed

<table>
<thead>
<tr>
<th>Advice for self-isolation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Stay indoors and avoid contact with others</td>
<td></td>
</tr>
<tr>
<td>• Do not</td>
<td></td>
</tr>
<tr>
<td>o Go out (e.g. to school, work, public areas or use public transport)</td>
<td></td>
</tr>
<tr>
<td>o Do not have visitors to the home</td>
<td></td>
</tr>
<tr>
<td>• Do</td>
<td></td>
</tr>
<tr>
<td>o Return home using personal transport (not public transport or ride sharing options)</td>
<td></td>
</tr>
<tr>
<td>o Stay indoors at home</td>
<td></td>
</tr>
<tr>
<td>o Avoid contact with all visitors</td>
<td></td>
</tr>
<tr>
<td>o Separate self from other household members (use own bed, bathroom, towels, crockery and utensils)</td>
<td></td>
</tr>
<tr>
<td>o Ventilate rooms by opening windows</td>
<td></td>
</tr>
<tr>
<td>o Wear a mask if directed by a doctor to leave the house (e.g. attend an appointment)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Antenatal care</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• If antenatal care required during self-isolation, assess individual needs to identify most suitable delivery method</td>
<td></td>
</tr>
<tr>
<td>o Undertake in the home whenever possible (e.g. home visit, telehealth, phone contact) using PPE as required by delivery method</td>
<td></td>
</tr>
<tr>
<td>• If pre-operative or specialised antenatal care cannot be delayed, individually assess the need for hospital admission</td>
<td></td>
</tr>
<tr>
<td>• Advise to contact health professional if any concerns</td>
<td></td>
</tr>
<tr>
<td>o Provide contact details for the local hospital and the National Coronavirus Helpline (1800 020 080)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Postnatal care</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Recommend mother and baby remain co-located in the home during self-quarantine/isolation</td>
<td></td>
</tr>
<tr>
<td>• If required, consider alternate postnatal care in the home (e.g. telehealth, phone)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Risk minimisation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Provide information about infection control practices that can prevent transmission of COVID-19</td>
<td></td>
</tr>
<tr>
<td>o Refer to <a href="#">Table 9. Containment and risk minimisation</a></td>
<td></td>
</tr>
<tr>
<td>• Provide information about COVID-19 (e.g. fact sheets)</td>
<td></td>
</tr>
<tr>
<td>• Refer to WA Health parent information:</td>
<td></td>
</tr>
<tr>
<td>o Appendix D: COVID-19 in pregnancy</td>
<td></td>
</tr>
<tr>
<td>o Appendix E: COVID-19 and breastfeeding</td>
<td></td>
</tr>
<tr>
<td>o Appendix F: Information for COVID-19 women in labour (suspected or confirmed)</td>
<td></td>
</tr>
</tbody>
</table>
4. In hospital maternity care (if suspected or confirmed COVID-19)

This section applies to pregnant women who are suspected or confirmed COVID-19.

Table 13. In hospital maternity care

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Consideration</th>
</tr>
</thead>
</table>
| **On admission**              | - Follow [WA Health recommendations and public alerts](https://www.health.wa.gov.au) for inpatient infection prevention and control, isolation, specimen collection and PPE use  
- To the extent possible, use single rooms and negative pressure isolation rooms  
- If cohorting of confirmed cases is required, follow WA health guidelines for patient placement ([Infection Prevention and Control in Western Australian Healthcare Facilities](https://www.health.wa.gov.au))  
- Escort directly to the dedicated isolation room/area  
- Alert obstetric/midwifery/ neonatal/infectious diseases teams of admission  
- Woman and support person to wear mask and follow hand hygiene (if support person lives with woman then should also be assumed as COVID positive or suspected)  
- Review the women’s psychological and emotional needs                                                                                                                                                                                                                                                                                                                      |
| **Retrieval or transfer**     | - Suspected or confirmed COVID-19 alone is not an indication for retrieval or transfer  
  o If transport or retrieval required, inform RFDS/NETSWA of suspected or confirmed COVID-19 status  
  o Given the potential for maternal deterioration and preterm birth, consideration should be given to early transfer if there are features of more than mild disease  
- Follow usual protocols/processes/criteria for transfer or retrieval                                                                                                                                                                                                                                                                                                                                 |
| **Treatment**                 | - Currently no proven antiviral treatment  
- Treatment (e.g. anti-pyrexia medicines, anti-diarrheal medicines, ICU admission) is directed by signs and symptoms, and severity of illness  
- Monitor and maintain fluid and electrolyte balance  
- Minimise maternal hypoxia  
  o Oxygen therapy as indicated to maintain target SpO2 of >94%  
  o Use PPE as recommended for aerosolised procedures  
- Consult with infectious diseases/microbiology regarding empiric antibiotic therapy for superimposed bacterial pneumonia  
- In the current absence of specific treatment recommendations, refer to [SOMANZ guidelines for investigation and management of sepsis in pregnancy](https://www.somanz.org.au)  
  o However, apply caution with IV fluid management. Try boluses in volumes of 250-500mls and then assess for fluid overload before proceeding with further fluid resuscitation  
- Also, for the moderate to severely ill COVID-19 patients, corticosteroids may cause a deterioration in their condition. Decisions around obstetric management of moderate/severe COVID-19 pregnant women are complex and should involve Maternal Fetal
4.1 Antenatal care while an inpatient (if confirmed or suspected COVID-19)

Table 14. Antenatal care while an inpatient

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Consideration</th>
</tr>
</thead>
</table>
| **Clinical surveillance**     | • In addition to usual maternal and fetal antenatal observations, monitor respiratory rate and SpO2  
                                o Maintain index of suspicion for bacterial pneumonia  
                                o Be aware that patients with COVID-19 related lung disease may not develop a tachypnoea even when hypoxic and a normal respiratory rate in a hypoxic person is not reassuring  
                                • Fetal surveillance as clinically indicated  
                                • Delay investigations/procedures that require the woman to be transported out of isolation whenever it is clinically safe |
| **Medical imaging**           | • Do not delay necessary medical imaging because of concerns about fetal exposure  
                                o Apply radiation shield over the gravid uterus  
                                • Ultrasound scan for fetal wellbeing as indicated and after resolution of acute symptoms  
                                • If positive COVID-19 result occurs in first trimester, consider detailed morphology scan at 18–24 weeks  
                                o Currently no data about the risk of congenital malformation with COVID-19 infection acquired in first or second trimester  
                                o In the setting of maternal fever in general, there is mixed data about the risk of congenital abnormalities during embryogenesis |
| **Threatened preterm labour** | • No current evidence to alter usual indications/recommendations in the asymptomatic patient for:  
                                o Antenatal corticosteroids  
                                o Magnesium sulphate  
                                o Tocolytics  
                                • For the moderate to severely ill COVID-19 positive patients, corticosteroids and salbutamol may cause a deterioration in their condition. Decisions around obstetric management of moderate/severe COVID-19 pregnant women at preterm gestations are complex and should involve Maternal Fetal Medicine, Obstetric Medicine Specialists, respiratory physician, intensivist and anaesthetist as required. |
## 4.2 Labour and birth (if suspected or confirmed COVID-19)

### Table 15. Labour and birth

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Consideration</th>
</tr>
</thead>
</table>
| **Mode and setting**    | • A positive COVID-19 result **without other indications** is not an indication to expedite birth  
  • Decision for mode of birth not influenced by positive COVID-19 result (unless urgent birth indicated)
  • When a woman with COVID-19 is admitted to the Birth Suite, the following members of the MDT should be informed: consultant obstetrician, consultant anaesthetist, consultant paediatrician or neonatologist, midwife in charge and infection control staff
  • Use a negative pressure room (if possible) for labour and birth with only bare essentials left in room  
  • The woman should be given surgical mask on presentation  
  • Woman should be managed under contact and droplet precautions for first stage but for second and third stages use contact and airborne precautions if available  
  • One birth support person only for the duration of the birth wearing surgical mask  
  • Refer to Appendix F: Information for COVID-19 women in labour (suspected or confirmed) |
| **Caesarean section**   | • If elective caesarean has been planned, individually assess urgency and consider whether pregnancy can be safely prolonged by use of increased fetal surveillance  
  • Avoid general anaesthetic unless necessary for standard indications as intubation is an AGP |
| **Water immersion/birth** | • No evidence that water immersion is contraindicated  
  • Water birth not recommended as SARS-COV-2 has been detected in stools and this may pose a risk to the baby  
  • Consider the potential for loss of PPE integrity during emergency procedures and/or evacuation from water |
| **Fetal monitoring**     | • Discuss the options for fetal monitoring in labour with women  
  • Recommend continuous electronic fetal monitoring as fetal distress has been reported  
  • Until further information available, avoid fetal scalp electrode monitoring and fetal blood sampling (consistent with recommendations for other maternal infections)
  • If FBS or FSE is considered, weigh the possible (small but unquantifiable) risk of fetal transmission against known benefits of improved assessment of fetal wellbeing  
  • If no remote access CTG viewing system available:
    • Utilise telemetry where available to distance machine from mother and enable 2nd staff member to view safely |
| **Neuraxial blockade**   | • No evidence that neuraxial blockade is contraindicated in the presence of COVID-19  
  • Consider neuraxial blockade early in labour to minimise need for general anaesthesia if urgent birth required (intubation is considered an AGP) |
| **Nitrous oxide** | • Currently insufficient and conflicting information about cleaning, filtering and AGP potential in the setting of COVID-19\(^{14,31}\)  
• For reasons of healthcare provider protection, avoid use by women with suspected or confirmed COVID-19  
• Consider the possibility that asymptomatic women (i.e. not known to COVID-19 positive) may request use during labour  
• If nitrous oxide is offered, face mask rather than mouthpiece may be preferable if available  
• Only use with a microbiological filter of less than 0.05µm pore size |
| **Documentation / communication** | • Minimise in room where possible  
• Ensure a 2nd midwife runner allocated outside room and for double checking CTG/medication with dedicated communication means with midwife in birth suite (consider use of walkie talkies, dedicated mobile phones, etc)  
• Utilise electronic means where available, or dedicated IPAD/Smartphone placed in snap lock bags |
| **Intrapartum care** | • Routine maternal observations plus respiratory rate and oxygen saturations\(^{14}\)  
• No evidence that delayed cord clamping increases risk of infection to the newborn\(^{14}\)  
• Manage placental tissue as per usual infectious human tissue protocols  
  o Discuss restrictions with women prior to birth to assist management of expectation for care (e.g. if the woman was intending to bury/take the placenta home) |
| **Clinical emergencies** | • Donning of PPE takes time, therefore to facilitate a rapid response to a clinical emergency, consider:  
  o Neuraxial blockade early in labour (to avoid need for general anaesthetic)  
  o Lowering the threshold for escalation of clinical concerns  
  o Early notification to operating room team (e.g. if PPH) |
| **Skin to skin** | • If no resus required: wrap baby during optimal timing of cord clamping, while the woman / support person performs hand hygiene and replaces their face masks – then may place baby for skin to skin |
| **Neonatal resuscitation\(^{32}\)** | • Ensure required neonatal resus personnel outside room with PPE in situ for birth, if resus not required at birth then resus staff can stand down.  
• If maternal COVID-19 is not clinical suspected, staff should follow standard precautions.  
• Where the mother is confirmed or suspected COVID-19, staff should use droplet, contact and standard precautions  
  o Surgical mask, long-sleeved fluid-resistant gown, gloves and eye protection (face shield or goggles)  
  o Where possible, the resuscitation of the neonate should be 2m away from the mother.\(^{33}\) |
## 4.3 Postnatal care (if suspected or confirmed COVID-19)

### Table 16. Postnatal care

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Consideration</th>
</tr>
</thead>
</table>
| **Co-location of mother and baby** | • Co-location of well mother and well-baby is recommended  
  o Determine need on individual basis considering for example, disease severity, parental preferences, psychological wellbeing, test results, local capacity, other clinical criteria  
  34  
  • Support vigilant risk minimisation strategies (e.g. hand hygiene, use of face mask) during feeding and other close mother-baby interactions |
| **Risk minimisation**         | • Provide information and education about risk minimisation strategies during usual mother-baby interactions (e.g. skin to skin, holding, cuddling, nappy change, feeding)  
  o Refer to Table 9. Containment and risk minimisation  
  • Discuss risks and benefits of close contact versus postnatal separation with parents  
  34  (including discharge home of well-baby before unwell mother)  
  • No evidence to support washing of maternal or baby skin before initial contact or breastfeeding as a risk minimisation strategy  
  • Consult with clinical experts as required |
| **Feeding choice**            | • There is no evidence to support that breastfeeding increases risk of vertical transmission.  
  35  
  • Provide usual support for maternal feeding preferences including for breastfeeding  
  o No detectable viral DNA found in breast milk to date  
  4  
  • Provide dedicated equipment (e.g. breast pump)  
  34  and follow usual sterilisation recommendations |
| **Expressed breast milk (EBM)** | • Support and encourage mother to express breastmilk (if feeding preference)  
  • Instruct and support adherence to infection prevention and control measures  
  o Hand hygiene  
  o Equipment cleaning and sterilisation  
  o Wearing of face mask (as risk of transmission is unknown)  
  o Wipe outside container of EBM with a disinfectant wipe and place/transfer in specimen bag  
  • Milk bank: pasteurisation destroys other coronaviruses  
  36  , but it is unknown if this applies to SARS-CoV-2  
  o May affect supply or availability of pasteurised donor human milk |
| **Discharge**                 | • Consider usual discharge criteria  
  • Inform the woman about requirements for completing self-isolation (if not completed before discharge)  
  • If Aboriginal and Torres Strait Islander women, their babies and/or support person are returning to defined restricted areas under the Human Biosecurity Act:  
  o Two weeks quarantine required to gain approval for entry into a designated biosecurity area from WA police  
  o Involve local cultural supports (e.g. health worker, Aboriginal and Torres Strait Islander Medical Services) to facilitate |
5. Confirmed COVID-19 with moderate to severe symptoms

This section contains information about additional considerations for pregnant women with moderate to severe symptoms of confirmed COVID-19.

- A summary on supportive care for adults diagnosed with COVID-19 has been published by the World Health Organisation (WHO).37
- Specific guidance on the management of patients with COVID-19 who are admitted to critical care has now been published by NICE.38

5.1 Pregnant women admitted antenatally (with moderate to severe COVID-19)

Table 17. Pregnant woman admitted antenatally due to moderate to severe symptoms of confirmed COVID-19

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Consideration</th>
</tr>
</thead>
</table>
| MDT planning    | Ideally involving a Consultant Physician (Infectious Disease Specialist where available), Consultant Obstetrician, Midwife-in-Charge and Consultant Anaesthetist responsible. Involve Maternal Fetal Medicine, Obstetric Medicine, and Intensive Care in the setting of severe disease or preterm gestation.  
                  Consider with the woman the:  
                  o Most appropriate location of care (e.g. Intensive Care Unit, isolation room in infectious disease ward or other suitable isolation room) and lead specialty  
                  o Key priorities for care including condition of the fetus |
| Observations    | Hourly observations, looking for the number and trends  
                  Hourly respiratory rate looking for the rate and trends. Young fit women can compensate for deterioration in respiratory function and are able to maintain normal oxygen saturations before they then suddenly decompensate. So a rise in the respiratory rate, even if the saturations are normal, may indicate a deterioration in respiratory function and should be managed by starting or increasing oxygen.  
                  Titrate oxygen to keep saturations >94%  
                  The frequency and suitability of fetal heart rate monitoring should be considered on an individual basis, taking into consideration the gestational age of the fetus and the maternal condition. If urgent delivery is indicated for fetal reasons, birth should be expedited as normal, as long as the maternal condition is stable.  
                  There are some reports that even after a period of improvement there can be a rapid deterioration. Following improvement in a woman’s condition, consider an ongoing period of observation, where possible, for a further 24-48 hours. On discharge, advise the woman to return immediately if she becomes unwell. |
| Investigations  | Radiographic investigations should be performed as for the non-pregnant adult; this includes chest X-ray and computerised tomography (CT) of the chest. Chest imaging, especially CT chest, is essential for the evaluation of the unwell patient with COVID-19 and should be performed when indicated, and not delayed because |
of fetal concerns. Abdominal shielding can be used to protect the fetus as per normal protocols.

- Consider additional investigations to rule out differential diagnoses e.g. ECG, perfusion only nuclear med scan as appropriate, echocardiogram. Do not assume all pyrexia is due to COVID-19 and also perform full sepsis screening.
- Consider bacterial infection if the neutrophil count is raised (lymphocytes usually normal or low with COVID-19) and commence antibiotics.

**Fluid management**

- Apply caution with IV fluid management. Try boluses in volumes of 250-500mls and then assess for fluid overload before proceeding with further fluid resuscitation.
- Given the association of COVID-19 with acute respiratory distress syndrome, women with moderate to severe symptoms of COVID-19 should be monitored using hourly fluid input/output charts.

**Timing of birth**

- If maternal stabilisation is required before delivery, this is the priority, as it is in other maternity emergencies, e.g. severe pre-eclampsia.
- An individualised assessment of the woman should be made by the MDT to decide whether elective birth of the baby is indicated, either to assist efforts in maternal resuscitation or where there are serious concerns regarding the fetal condition. Individual assessment should consider: the maternal condition, the fetal condition, the potential for improvement following elective birth and the gestation of the pregnancy. The priority must always be the wellbeing of the mother.

---

### 5.2 Woman with moderate to severe symptoms of confirmed COVID-19 requiring intrapartum care

This section includes additional recommendations (to Table 17 above) for women with moderate or severe symptoms of COVID-19 requiring intrapartum care.

Table 18. Additional recommendations for intrapartum care for COVID-19 confirmed women with moderate to severe symptoms

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Consideration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluid management</td>
<td>• Efforts should be targeted towards achieving neutral fluid balance in labour, to avoid the risk of fluid overload.</td>
</tr>
<tr>
<td>Risk minimisation</td>
<td>• Long sleeved gown, gloves, P2/N95 mask, and eye protection throughout labour and birth.</td>
</tr>
<tr>
<td>Mode of birth</td>
<td>• With regard to mode of birth, an individualised decision should be made, with no obstetric contraindication to any method except water birth (see above). Caesarean birth should be performed if indicated based on maternal and fetal condition as in normal practice.</td>
</tr>
<tr>
<td>Neonatal team for birth</td>
<td>• The neonatal team should be informed of plans for the birth of the baby of a woman affected by moderate to severe COVID-19 as far in advance as possible and should also be given sufficient notice at the time of birth to allow them to attend and don PPE before entering the room/theatre.</td>
</tr>
</tbody>
</table>
• See Infection Prevention and control in Western Australian Healthcare facility guidelines for further guidance.

6. Newborn care
See WA Health COVID-19 Guidance for Neonatal Services Statewide and WNHS guideline (internal link).

Part two: Facility and workforce

7. Framework for maternity services
Table 19. Framework for considering the impact for maternity services

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Consideration</th>
</tr>
</thead>
</table>
| Service provision | • Continue to provide clinically indicated:  
  o Access to antenatal, intrapartum and postnatal care for women with and without COVID-19  
  o Access to neonatal care  
  • Consider alternative means, for example telehealth, home visits  
  • Consider locally appropriate plans for unanticipated maternal/fetal/neonatal transfer to higher level care where such facilities are not locally available |
| Consideration | • Follow local pandemic plans  
  • Co-ordinate with hospital and health service response  
  • Collaborate with infection control and infectious diseases specialists regarding isolation  
  • Consult early with intensive care specialists for women needing high dependency care |
| Supplies, equipment and consumables | • Be aware of supply chain problems due to the global impact of the situation  
  • Develop management strategies for the increased demand of routine consumables  
  • Follow WA Health and your health service policies regarding supply and access to personal protective equipment (PPE), see Appendix C: Guidance for PPE use by HCWs providing direct patient care.  
  • Co-ordinate high dependency care resources (e.g. high flow oxygen meters, monitors) with other services within health facility |
<table>
<thead>
<tr>
<th>Human resources</th>
<th>Plan for</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Staff being unavailable due to respiratory infection or social reasons</td>
</tr>
<tr>
<td></td>
<td>- Staff requiring self-quarantine</td>
</tr>
<tr>
<td></td>
<td>- Increased demand for staff with specialist skills</td>
</tr>
<tr>
<td></td>
<td>- Casual/locum workforce depleted or not available</td>
</tr>
<tr>
<td></td>
<td>Education and training requirements</td>
</tr>
<tr>
<td></td>
<td>- Provide up to date training regarding the care of COVID-19 patients</td>
</tr>
<tr>
<td></td>
<td>- Consider skill mix of staff for usual maternity care and provide appropriate support and training</td>
</tr>
</tbody>
</table>

| Communication | Provide staff and patients with consistent, timely and up to date information |
|              | Promote social distancing and healthy lifestyle measures for staff and pregnant women |
|              | Provide information as becomes known |
|              | Acknowledge evolving circumstances, uncertainty and impact on staff and patients |
8. Capacity management for maternity and gynaecological services

Table 20. Capacity management

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Consideration</th>
</tr>
</thead>
</table>
| **High volume screening**     | • Commence hospital avoidance strategies for antenatal/postnatal care  
                                 | • Consider requirements for high volume screening of women on presentation to hospitals including:  
                                 |   o Direct entry to birth suites and pregnancy assessment units/obstetric review centres  
                                 |   o Via emergency departments                                                                                                                                 |
| **Antenatal care**            | • Reduce hospital-based outpatient services for low risk women in anticipation of medical and midwifery services focussed on high risk outpatient and inpatients  
                                 | • Establish pathways to redirect low risk women to community based antenatal care (e.g. general practitioner, community midwifery, privately practising midwives) |
| **High risk obstetrics**      | • Continue services and focus (potentially limited) workforce on provision of high-risk services  
                                 | • Consider which visits can be conducted via telehealth or phone  
                                 | • Limited physical visits to 15 minutes where possible with remainder of visit followed up via phone/video consult |
| **Birthing services**         | • Continue services  
                                 | • Maximise access for privately practising midwives (credentialed) and general practitioner-obstetricians  
                                 | • Low risk patients are managed by midwives only |
| **Postnatal services**        | • Continue inpatient services as clinically necessary  
                                 | • Redirect postnatal care to community based midwifery care where possible (e.g. home visits) and telehealth options |
| **Obstetric theatres**        | • Consider use relative to demand  
                                 | • Maintain emergency obstetrics capacity  
                                 | • Consider impact of theatre infection control procedures on theatre availability  
                                 | • Consider infection control requirements when operating on confirmed or suspected COVID-19 positive patients |
| **Elective gynaecology services** | • Reduce elective gynaecological services to category one only                                                                                     |
| **Hospital isolation**        | • Establish hospital isolation capacity for women (and their babies) with suspected or confirmed COVID-19 requiring hospital admission for maternity or other clinical care including:  
                                 |   o Antenatal clinics  
                                 |   o Pregnancy assessment units  
                                 |   o Birth suites  
                                 |   o Inpatient wards – antenatal, postnatal, gynaecology  
                                 |   o Peri-operative suites  
                                 |   o Neonatal units  
                                 | • Develop local protocols for management of women requiring inpatient or urgent outpatient care |
### 9. Staffing and workforce

Consider workforce management relative to surge demand and exposure risk of staff.

**Table 21. Workforce**

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Consideration</th>
</tr>
</thead>
</table>
| Absenteeism                 | • Additional skilled staff will be difficult to recruit, and a significant absenteeism rate can be expected  
• Commence any additional recruitment as soon as possible                                                                                          |
| Re-deployment of staff      | • Re-deploy pregnant staff with underlying health condition, or 28 weeks gestation or more to services with low risk of exposure  
  o If less than 28 weeks gestation, avoid working in high risk areas (e.g. intensive care/high dependency unit, operating room suite)  
• For clinical staff not currently providing frontline services, consider re-introduction to frontline services and clinical skills training as required  
• Consider redeploying staff whose usual roles (e.g. elective surgery and some outpatients) are suspended or reduced as part of the response, to non-specialist settings  
• Consider redeploying non-front line clinician roles (e.g. educators, patient safety officers, project officers) to support clinically |
| Upskilling                  | • Commence upskilling of existing staff who may be required to be redeployed to meet surge demand                                                                                                           |
| PPE training                | • Ensure all clinical staff attend PPE training provided by the health services  
• Access online training provided by your health service and via [Department of Health](http://www.health.wa.gov.au)                                                                                           |
| Self-quarantined staff      | • If well, consider use in supporting clinical services remotely (i.e. telehealth outpatients)                                                                                                               |
| Alternative models          | • Consider capacity of public provided community-based services with respect to redirecting low risk antenatal care to community sites and/or community-based service providers (i.e. dedicated obstetric GP practices, private midwives)  
• Alternative staffing models with reduced numbers of medical and midwifery /nursing staff should be developed  
• Staffing in teams with same shifts patterns or to specific clinical areas work  
• Protect obstetric medical practitioners expertise for women with risk factors only – midwives to manage all low risk women including birth  
• Dedicate GPs who work across multiple specialties to one specialty i.e. obstetrics or anaesthetics or aged care only  
• Midwives working in dual specialities to work in the one area of greatest local need i.e. ED only or maternity only  
• Expand early discharge programs with community/telehealth follow-up  
• Protect midwives from working in general areas during low maternity activity (i.e. establish midwifery on call rosters)               |
| Staff wellbeing             | • Make staff aware of employee assistance provider information and contact details  
• Make use of available technology to check in on staff wellbeing and help maintain connection to workplace                                          |
10. Resources

- Queensland clinical guideline on Perinatal care of suspected or confirmed COVID-19 pregnant women, 26 March 2020 (external site)
- Department of Health WA
  o COVID Hub (access to WA Health employees through HealthPoint)
  o Health Care Providers and Provision of PPE (internal site)
  o COVID-19 Infection Prevention and Control in the Hospital Setting (internal site)
  o COVID-19 Guidelines for Outpatient Services (internal site)
  o Critical Supplies Snapshot (access to WA Health employees through HealthPoint)
  o COVID19: Infection Prevention and Control in the Hospital Setting (internal site)

WACHS related resources and guidelines

- WACHS COVID Resources (access to WA Health employees through HealthPoint)
- WACHS Telehealth hub (access to WA Health employees through HealthPoint)
- COVID-19 WACHS Guidelines for Staff Conducting Home Visits or Providing Services in the Community (access to WA Health employees through HealthPoint)
- COVID-12 WACHS Guidelines for Home Visiting for Clients at Risk or in Self-Isolation (access to WA Health employees through HealthPoint)

11. References


Appendix A: Modification of routine ultrasounds investigations in low-risk women

<table>
<thead>
<tr>
<th>Scan</th>
<th>Asymptomatic</th>
<th>Symptomatic</th>
</tr>
</thead>
</table>
| 11+0 to 13+6 weeks* | • Combined test  
• Offer non-invasive prenatal testing (NIPT)  | • Reschedule combined test in 2 weeks if still within gestational-age window  
• Offer NIPT/serum screening and detailed scan 3–4 weeks after quarantine |
| 18+0 to 23+0 weeks* | • Anatomical scan  | • Reschedule after quarantine in 2–3 weeks                                    |
| Fetal growth scan in third trimester | • Reduce numbers of scans as clinically appropriate  
  o Perform only for standard clinical indications  
• If no clinical review in late pregnancy (no fundal height measurement; fetal heart rate auscultation), consider brief late gestation scan to confirm presentation and fetal wellbeing (biometrics and amniotic fluid volume measurement) | |

Appendix B: Screening and diagnosis of GDM during COVID-19 pandemic

**COVID-19 pandemic**

- **Applies to:** Pregnant women regardless of COVID-19 status
- **Rationale:** To support social distancing and minimise blood collection time (i.e. not based on new evidence)
- **Implementation:** Commence as practical and convenient. Seek expert advice as clinically appropriate

---

**Risk factors for GDM**
- BMI > 30 kg/m² (pre-pregnancy or on entry to care)
- Ethnicity (Asian, Indian subcontinent, Aboriginal, Torres Strait Islander, Pacific Islander, Maori, Middle Eastern, non-white African)
- Previous GDM
- Previous elevated BGL
- Maternal age ≥ 40 years
- Family history DM (1st degree relative or sister with GDM)
- Previous macrosomia (birth weight > 4500 g or > 90th percentile)
- Previous perinatal loss
- Polycystic ovarian syndrome
- Medications (corticosteroids, antipsychotics)
- Multiple pregnancy

---

**Assess all women for risk factors**

- Risk factors present or GDM clinical concerns?
  - Yes
    - First trimester HbA1c
  - No
    - Check fasting FBG
      - At 24–28 weeks gestation or
      - If clinical concerns after first trimester
        - HbA1c >41 mmol/mol (5.9%)?
          - Yes
            - GDM diagnosis HbA1c first trimester only
              - ≥ 41 mmol/mol (or 5.9%)
            - OGTT one or more of:
              - Fasting ≥ 5.1 mmol/L
              - 1 hour ≥ 10 mmol/L
              - 2 hour ≥ 8.5 mmol/L
        - If FBG 4.7–5.0 mmol/L
          - OGTT recommended
            If COVID-19 suspected or confirmed seek expert clinical advice
        - If FBG ≥ 5.1 mmol/L
          - OGTT not required

---

**OGTT advice for women**
- Fast (except for water) for 8–14 hours prior to OGTT
- Take usual medications
- If FBG ≤ 4.6 mmol/L
  - OGTT not required
- If FBG >4.7 mmol/L
  - OGTT recommended
  - If COVID-19 suspected or confirmed seek expert clinical advice

---

**Routine antenatal care (unless clinical concerns)**

---

**HbA1c (%) HbA1c (mmol/mol)**

<table>
<thead>
<tr>
<th>HbA1c (%)</th>
<th>HbA1c (mmol/mol)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0</td>
<td>31</td>
</tr>
<tr>
<td>6.0</td>
<td>42</td>
</tr>
<tr>
<td>6.5</td>
<td>48</td>
</tr>
<tr>
<td>7.0</td>
<td>53</td>
</tr>
<tr>
<td>8.0</td>
<td>64</td>
</tr>
<tr>
<td>9.0</td>
<td>75</td>
</tr>
<tr>
<td>10.0</td>
<td>86</td>
</tr>
<tr>
<td>11.0</td>
<td>97</td>
</tr>
<tr>
<td>12.0</td>
<td>108</td>
</tr>
</tbody>
</table>

BGL: blood glucose level, BMI: body mass index, DM: diabetes mellitus, FBG: fasting blood glucose GDM: gestational diabetes mellitus, HbA1c: glycated haemoglobin, OGTT: oral glucose tolerance test, ≥ greater than or equal to, > greater than, ≤ less than or equal to
### Appendix C: Guidance for PPE use by HCWs providing direct patient care

<table>
<thead>
<tr>
<th>Patient Scenario</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient who does not meet the definition of confirmed, suspected or</td>
<td>P2 or N95 mask: Yes, As per standard precautions</td>
</tr>
<tr>
<td>probable COVID-19 (low or no community transmission)</td>
<td>Surgical mask: Yes, As per standard precautions</td>
</tr>
<tr>
<td></td>
<td>Eye protection, face visor/shield, safety goggles: Yes, As per standard</td>
</tr>
<tr>
<td></td>
<td>precautions</td>
</tr>
<tr>
<td></td>
<td>Gloves: Yes, As per standard precautions</td>
</tr>
<tr>
<td></td>
<td>Fluid repellent gown or Plastic apron*: Yes, As per standard precautions</td>
</tr>
<tr>
<td>Patient who is confirmed, probable or</td>
<td>All patients (excluding patient groups below): As per standard precautions</td>
</tr>
<tr>
<td>suspected COVID-19 patient** (low or no community transmission)</td>
<td></td>
</tr>
<tr>
<td>Patient who is confirmed, probable or</td>
<td>Are undergoing aerosol generating procedures (AGPs).</td>
</tr>
<tr>
<td>suspected COVID-19 patient** (low or no community transmission)</td>
<td>Have severe disease (e.g., those admitted to intensive care units).</td>
</tr>
<tr>
<td></td>
<td>Require prolonged episodes of care and adequate physical</td>
</tr>
<tr>
<td></td>
<td>distancing cannot be maintained.</td>
</tr>
<tr>
<td></td>
<td>Who by nature of their condition, mental state or age exhibit</td>
</tr>
<tr>
<td></td>
<td>challenging behaviours (e.g., aggression, screaming, shouting)</td>
</tr>
<tr>
<td></td>
<td>and adequate physical distancing cannot be maintained.</td>
</tr>
<tr>
<td></td>
<td>As per standard precautions</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>**Aprons or long-sleeve fluid resistant gown should be used in situations</td>
</tr>
<tr>
<td></td>
<td>when there is a risk of exposure to blood, body substances, and other</td>
</tr>
<tr>
<td></td>
<td>potentially infectious material.</td>
</tr>
<tr>
<td></td>
<td>**Asymptomatic individuals in quarantine, as directed by WA Health or</td>
</tr>
<tr>
<td></td>
<td>WA Police are to be managed as per confirmed, probable or suspected</td>
</tr>
<tr>
<td></td>
<td>COVID-19 patients</td>
</tr>
</tbody>
</table>

health.wa.gov.au
Appendix D: COVID-19 in pregnancy

Last reviewed: 20 April 2020

What is COVID-19 and coronavirus?

Coronavirus Disease 2019 (COVID-19) is the disease caused by a new coronavirus named SARS-CoV-2 and is easily passed from person to person. In most people with good health, COVID-19 is mild. Severe illness, such as pneumonia are more common in older people and those who have other illnesses.

How will COVID-19 affect you?

As this is a new virus, we are still learning how it may affect you and your baby. Our understanding currently is from women who got the virus late in their pregnancy. There is no information yet about women who may have had an infection in early pregnancy.

At this time, pregnant women do not appear to be more severely unwell if they develop COVID-19 infection than the general population. It is expected that most pregnant women who get the virus will experience only mild or moderate cold/flu like symptoms.

However, any respiratory illness (such as influenza) can cause serious complications, so it is advised that pregnant women take extra precautions in practising good hygiene and social distancing to reduce the risk of getting COVID-19.

If you also are a smoker, have a heart or lung condition such as asthma, or other long-term condition, you may become more unwell than a pregnant woman who doesn’t. It is important that you tell your maternity health care provider if you have other health conditions.

How will COVID-19 affect your baby?

The risk of infection passing from mother to baby during pregnancy is thought to be low. So far, the virus has not been shown to pass from the mother to her baby before birth (this is called vertical transmission).

Some babies born to women with COVID-19 have been born early (prematurely). In most cases the decision was made for the baby to be born early because the mother was unwell.

Viral infections, such as the flu can cause a high fever. If you have a high fever at any stage of your pregnancy call your healthcare provider or the National Coronavirus Helpline 1800 020 080.

Is it safe to come to hospital?

High quality maternity and newborn services continue to be provided. To reduce the chance of you, your baby and the staff looking after you getting COVID-19, hospitals may change the way care is provided including:

- providing care in the community rather than in hospital
- offering care by video or phone
- limiting the number of support people and visitors coming into the hospital (this will help to reduce the chance of spreading the infection)
- promoting hand hygiene, other infection control procedures and social distancing.

Can COVID-19 be prevented or cured?

There is no vaccine to prevent COVID-19 yet (but a lot of people are working on it). There is also no cure or specific treatment for it. The best thing to do is to reduce your chance of getting the infection in the first place.

You can do this by:

health.wa.gov.au
• washing your hands regularly and frequently—use soap and water for at least 20 seconds or an alcohol-based hand sanitiser/gel
• using social distancing (stay 1.5 metres away from other people)
• avoiding anyone who has a fever, cough or symptoms of a cold or chest infection
• avoiding touching your eyes, nose and mouth

If you are unwell:
• telephone your healthcare provider as soon as possible
• take paracetamol for fever or pain, as per instructions on the packaging (avoid medications that contain ibuprofen if possible)
• rest and drink plenty of water.

What if you or your family has COVID-19?

If you think you or a family member might have COVID-19, access the Coronavirus Symptom Checker, call your general practitioner (GP) or the National Coronavirus Helpline 1800 020 080.

When should you self-quarantine?

Self-quarantine for 14 days if you have:
• tested positive for COVID-19, you must self-quarantine in your home (or other suitable accommodation) until you have been told you can be released from isolation.
• been tested for COVID-19, you must isolate yourself in your home (or other suitable accommodation) while you are waiting for your result.
• been in close contact with a confirmed case of COVID-19, you must isolate yourself in your home (or other suitable accommodation) for 14 days after the date of last contact with the confirmed case.
• arrived into Western Australia from interstate by air, sea, rail or road in the last 14 days, you must self-isolate in your home (or other suitable accommodation) for 14 days from the date of arrival (some exemptions may apply).
• returned from overseas in the last 14 days, you will be subject to mandatory self-isolation for 14 days at your first Australian destination. Suitable accommodation will be made available. You will not be permitted to return home or transit to another state until your 14 day self-isolation period is completed.

How do you self-quarantine?

If you have been advised to self-isolate, stay indoors and avoid contact with others.

This means:
• not going to school, work or public areas
• not using public transport
• staying at home and not bringing visitors to your home
• ventilate rooms by opening windows
• sleeping apart, where possible
• using your own linen
• using your own cutlery and utensils
• separating yourself from other members of the household, where possible
• increasing cleaning of shared areas.

Can you come to antenatal appointments if in self-isolation?

Contact your healthcare provider or hospital to:
• inform them that you are currently in self-isolation for suspected or confirmed COVID-19
• request advice on attending routine antenatal appointments.
What if you feel unwell or are worried during self-isolation?

If you begin to feel unwell (have a fever or shortness of breath, cough or a respiratory illness) while in self-isolation seek immediate medical attention. Call ahead to your general practitioner (GP) or emergency department and tell them about your situation before you arrive.

What if I go into labour during self-isolation?

If you go into labour, call the hospital, or your healthcare provider. Tell them that you have or might have COVID-19 infection. They will give you advice.

Our hospitals take great care to limit the spread of disease between patients. They are fully equipped to care for pregnant women with COVID-19 or are in self isolation.

Will COVID-19 affect your birth plan?

Having COVID-19 will not by itself affect how your baby is born. If you are booked for an induction of labour or caesarean section, and have suspected or confirmed COVID-19, notify your health care provider immediately to discuss a plan.

There is no evidence that women with suspected or confirmed COVID-19 cannot have an epidural or use nitrous oxide. This will be discussed with you.

If you have been confirmed as positive or are suspected of having COVID-19, continuous monitoring of your baby in labour is recommended (but is not compulsory). This is because some babies (whose mothers had COVID-19) showed signs of distress during labour.

Monitoring can help detect problems as early as possible. This recommendation is the same as for other infections in pregnancy. Talk to your healthcare provider about any concerns you may have.

The number of support people you can have with you during your labour is limited to one and choose someone who can stay with you for the whole time.

Will having COVID-19 affect contact with my baby?

In most cases keeping a mother and baby together is best. If either of you are very unwell this may not be possible. Your healthcare provider will talk with you about what you want and what your choices are. If you are very unwell, one option may be for your baby to go home with a well adult (e.g. well partner or relative).

If you have or may have COVID-19 it is important to do everything you can to prevent your baby getting the virus, even if you don’t have symptoms. This is why it is very important that you:

- wash your hands before and after touching your baby-use soap and water for at least 20 seconds or an alcohol-based hand sanitiser/gel
- routinely clean and disinfect surfaces you have touched
- have a healthy adult assist you to care for your baby where possible
- wear a mask while in close contact with your baby, including while feeding

A small number of babies may develop mild or moderate symptoms in the weeks following birth and some may require additional hospital care. If your baby becomes unwell following birth, contact your GP or hospital. Call ahead and advise them you have/had COVID-19.

Will your baby be tested for COVID-19?

The need for testing your baby will be determined by the symptoms your baby has. In general, well babies will not be tested.
Appendix E: COVID-19 and breastfeeding

Last reviewed: 20 April 2020

What is COVID-19 and coronavirus?

Coronavirus Disease 2019 (COVID-19) is the disease caused by a new coronavirus named SARS-CoV-2. It is easily passed from person to person. In most people with good health, COVID-19 is mild. Severe illnesses, such as pneumonia are more common in older people and those who have other illnesses.

As this is a new virus, we are still learning how it may affect you and your baby.

If you have COVID-19, can you breastfeed?

Yes. If you want to breastfeed, this will be supported. There are no reports showing the COVID-19 virus (SARS-CoV-2) is present in breastmilk to date.

Breastmilk is best for almost all babies. Breastfeeding helps you and your baby bond together. It also helps protect your baby against infection.

Your decision to breastfeed may involve thinking about your baby’s health, how sick you are and whether you are well enough to care for your baby. Your healthcare team will discuss your individual situation and feeding options with you.

What is advised about breastfeeding with other infections?

Breastmilk contains antibodies and other immune protective factors which help protect against many illnesses. For example, when a mother has the flu, breastfeeding is still encouraged with extra care to avoid spreading the virus to her baby.

Can your baby get COVID-19 from breastfeeding?

The COVID-19 virus has not been found in breastmilk. However, COVID-19 is easily passed from person to person through close contact. Additional precautions are recommended while in close contact with your baby (as they are for other infections).

What precautions should you take when looking after your baby?

If you have COVID-19, it is important to do everything you can to prevent your baby getting the virus, even if you don’t have symptoms. This is why it is very important that you:

• wash your hands before and after touching your baby—use soap and water for at least 20 seconds or an alcohol-based hand sanitiser/gel
• routinely clean and disinfect surfaces you have touched
• wear a mask while in close contact, including while breastfeeding.
• have a healthy adult assist you to care for your baby where possible.

Can your baby be fed expressed breast milk?

Feeding your expressed breastmilk (EBM) to your baby is also strongly supported. If you decide to feed your baby EBM, you will also need to think about:

• your health and your baby’s health
• where your baby is located
• who is looking after your baby.

Your healthcare team will discuss with you how they can support you and your feeding choices.

What precautions should you take with expressed breast milk?
• Wash your hands with warm soapy water for 20 seconds or use an alcohol-based hand sanitiser before you start to pump or handle milk collection equipment
• Wear a face mask while expressing
• Cleanse the outside of the breast pump before you use it
• Avoid coughing or sneezing on the breast pump collection kit and the milk storage containers
• Clean the pump and all its parts, and the bottle carefully after each use.
• If you are unwell, have a healthy care-giver feed the expressed breast milk to your baby where possible.
• Remind other care-givers to wash their hands using soap and water for at least 20 seconds or an alcohol-based hand sanitiser/gel before and after touching your baby.

Breastfeeding, don’t have COVID-19 and haven’t been exposed? What should you know?

Current evidence supports breastfeeding for all the usual benefits it offers to you and your baby.

Follow public health advice about reducing the risk of infection.

Take care with washing your hands regularly, and before and after feeding and touching your baby.

Avoid contact with anyone with symptoms of a cold or flu.

Where possible, use social distancing at home and in hospital.
Appendix F: Information for COVID-19 women in labour (suspected or confirmed)

Last reviewed: 20 April 2020

As a woman in labour, you have the right to a safe and positive birth experience.

To help protect you, your baby and other families and staff at this time, we ask that you please choose only one support person for your labour and birth. This support person will need to wear a face mask and will also need to stay in the birth suite at all times.

During labour:

- You may be asked to wear a face mask
- We will recommend continuous fetal monitoring (CTG monitoring) as this can help detect any potential compromise or stress to the baby from the effects of the virus.
- Whilst you can access a range of pain relief options, epidural analgesia is recommended and can be offered early in labour. Epidurals are the most effective form of pain relief and they do not increase the likelihood of you needing a caesarean. However, if a caesarean section is needed and you have an epidural already in place and working, this will decrease the risk of needing a general anaesthetic (going to sleep for the caesarean section) and will also decrease the time needed to perform the emergency birth and delivery of your baby.

Please note that in an emergency, health professionals will need to put on and wear extra personal protective equipment (PPE) because of the risk of the virus. This will increase the time needed for the health professionals to prepare for your surgery and in an emergency, this could adversely affect the outcome for you or your baby.

We understand that this may be a stressful time for you and your family, but your health team are here to support you and provide for a safe and positive birth.

If you have any questions or concerns, please speak to your team at any stage.
Authority

Department of Health, Western Australia.

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 WA Department of Health wishes to acknowledge the Queensland Health Department, *COVID-19 Guidance for Maternity Services* Guidelines, the Royal College of Obstetricians and Gynaecologists *Coronavirus (COVID-19) Infection in Pregnancy* Guidelines, upon which these Guidelines were developed.

These guidelines have been developed to be used in conjunction with the Department of Health’s *Management of COVID-19 Guidance for Neonatal Services Statewide*.

Contributors

- WA Statewide Obstetric Support Unit
- Western Australia Country Health Service (WACHS)
- King Edward Memorial Hospital
- Child and Adolescent Health Service
- COVID-19 Maternity Working Group

This document can be made available in alternative formats on request for a person with disability.

© Department of Health 2020

Copyright to this material is vested in the State of Western Australia unless otherwise indicated. Apart from any fair dealing for the purposes of private study, research, criticism or review, as permitted under the provisions of the *Copyright Act 1968*, no part may be reproduced or re-used for any purposes whatsoever without written permission of the State of Western Australia.