Covid-19 infection in Maternity: Personalised assessment and management of Covid-19 risk factors (including ethnic risk factors); vaccination; inpatient and outpatient care – Full Clinical Guideline

Reference no.: UHDB/MAT/COV3/12:21

Contents

1. Introduction

This clinical guideline aims to support staff in undertaking a personalised associated risk assessment and provides guidance on increased surveillance required for pregnant women with confirmed or suspected Covid-19 infection. The guideline complies with the latest guidance[3] from the Royal College of Obstetricians and Gynaecologists and the Royal College of Midwives.

Available evidence has long shown that maternal and perinatal mortality rates are significantly higher for Black, Asian and mixed-race women and their babies than for white women.[1] Public Health England's recent report also suggests that mortality involving COVID-19 disproportionately affects those from a Black, Asian and Minority Ethnic (BAME) background.

On top of this, emerging evidence from the UK Obstetric Surveillance System at Oxford University shows that women from a Black, Asian and minority ethnic background make up more than half (56%) of pregnant women admitted to hospital with COVID-19.[2] The research indicates that Asian women are four times more likely than white women to be admitted to hospital with COVID-19 during pregnancy, while Black women are eight times more likely.

Other risk factors that appear to be associated both with being infected and being admitted to hospital with COVID-19 in pregnancy include raised BMI, higher maternal age and pre-pregnancy comorbidities.

To safely manage the risks of Covid-19 for pregnant women the guideline covers:

- Raising awareness during pregnancy to ensure women are appropriately informed;
- Provision of appropriate information; and

- Timely escalation and referral.

2. Raising awareness

From initial contact with maternity services, women should be advised by the midwife or obstetrician to:

- Arrange a Covid-19 test without delay if indicated as per Governance guidance
- Inform Maternity Services without delay if they receive a confirmed positive Covid-19 result
- Contact Maternity services without delay if they are concerned about their health or their baby's at anytime.

Reassurance should be given that maternity services are available during the pandemic and women should be encouraged to seek help if they have any concerns.

Women should be provided with the following contact information for their local maternity service of the hospital where they are to choosing to birth at:

- PAU(RDH): 01332 785 796
- MAU(QHB): 01283 593 038

3. Risk factors related to Covid-19

Women of a Black, Asian or other minority ethnic background should be advised that they may be at higher risk of complications of COVID-19. Clinicians should be aware of this increased risk and have a lower threshold to review, admit and consider multidisciplinary escalation in women of a Black, Asian or other minority ethnic backgrounds.

Other risk factors that appear to be associated both with being infected and being admitted to hospital with COVID-19 in pregnancy include raised BMI, higher maternal age and pre-pregnancy comorbidities.

3.1. Vitamin D

Midwives and obstetricians must discuss vitamins, supplements and nutrition in pregnancy with all women. Women with dark skin or those women who always cover their skin when outside may be at particular risk of Vitamin D insufficiency and should consider taking a daily supplement of Vitamin D throughout the whole year. Pregnant women under this category as well as those with a BMI of ≥30 and those with DM/GDM, should be advised to take 800-1000 IU (20-25µg) daily. All adults, including pregnant and breastfeeding women, need 400 IU (10 µg) each day (dose as can be found in Healthy Start vitamins).

4. Information and Documentation

- All women are to be provided during pregnancy with a patient information leaflet reflecting the National RCOG leaflet with the information discussed (separately available on KOHA as a child document) or alternatively sign posted to online information
- Women should be informed that if they wish to have a further discussion, they can contact their GP. Women under consultant led care should have a documented discussion regarding vaccination at their next appointment.
- Women and their families should be strongly encouraged to undertake twice weekly lateral flow testing and be given information on how to access testing kits.
- Women should be informed to contact PAU/MAU at the hospital where they have chosen to birth if they receive a positive result following a PCR Covid-19 test, or suspect that they have Covid-19 and also have concerns about their health or that of their baby.
- Women should be asked the following questions at their booking appointment, at their initial consultant appointment and around their 28 week antenatal appointment:
    - Do you know the symptoms of Covid-19
    - Do you know how to access help/testing if you develop symptoms?
    - Do you know how to access help if you have pregnancy concerns?
    - Are you taking vitamin D supplements?

- All of the above should be clearly documented in the electronic records (Lorenzo/Meditech/K2) and/or in the Handheld records (a sticker is available to support documentation; see Appendix C)
- For all women informing maternity services of a positive Covid-19 infection the checklist (Appendix D) should be used for documentation. These are to be kept in a special folder on MAU/PAU initially and filed in the medical notes when infection is resolved.

5. Women in maternity with positive PCR test for Covid-19

5.1. Woman at home, self isolating

When a woman informs PAU/MAU that she has received a positive PCR Covid-19 test result, a clinical review (this can be during telephone conversation when woman calls PAU/MAU) should be attempted to assess VTE risk and thromboprophylaxis considered and prescribed on a case-by-case basis:

- Commence a checklist (Appendix D)
- Assess Covid-19 specific symptoms (Appendix E)
- Carry out a VTE risk assessment: Covid-19 infection should be considered a transient risk factor scoring 1 (to be added as a transient risk factor to non-Covid VTE risk assessment)
- If this increases the VTE score to the threshold for thromboprophylaxis refer to full guideline: Thromboprophylaxis during and up to 6 weeks after pregnancy - full clinical guideline (click here)
- If thromboprophylaxis required, contact community midwifery team to (see apendix F):
    - Collect prescription and sharps bin
    - Plan a home visit to deliver LMWH prescription and sharps bin and to teach safe self injecting
- If symptomatic of COVID-19 see 5.2

For women remaining home:

- Provide guidance:
    - to ensure they stay well hydrated and mobile throughout this period
    - To contact PAU/MAU if deterioration occurs and/or they have concerns related to their own or their baby's health
- PAU/MAU to inform named midwife and for that person to:
    - Check when next appointment is booked and management plan
    - Consider safety of deferring appointment or providing alternative option (e.g. phone consultation, CMW home visit)
- PAU/MAU to additionally:
    - Check and defer clinic appointments
    - Check and defer scan appointments
    - Clearly document in Lorenzo (RDH) or Medical notes (QHB)
- PAU/MAU to assess complex social factors (see Appendix E) and if deemed at risk, to contact the woman to assess their symptoms and any deteriorations in their condition every 2 to 3 days (agree with the woman) up to day 10 following the positive test. Clearly document each contact on electronic system and/or in medical notes. If unable to contact the woman (3 attempts in 24 hours is deemed reasonable), assure she is not a current inpatient and if this is not the case request a home visit by the community midwifery team.
- For women who have recovered from Covid-19 infection with mild, moderate or no syptoms, without requiring admission to hosptial: antenatal care should remain unchanged following a period of self-isolation

5.2. Symptomatic woman at home with Covid-19

- Assess severity of illness
- In the presence of symptoms suggesting severe illness (Appendix E):
    - Advise to come in without delay:
        - directly to labour ward for those 20 weeks gestation and over
        - Discuss with registrar for best location if below 20 weeks gestation (may be more suitable to direct to A&E)
    - Contact labour ward coordinator or A&E to expect admission
- In presence of symptoms not suggesting severe illness:
    - Assess clinical and social risks associated with increased hospitalisation with COVID-19

(Appendix D):
- Discuss with clinician if risk factors identified
- Clinician to review and assess the need for admission and follow up

For women who have recovered from Covid-19 infection with mild or moderate syptoms, without requiring admission to hosptial: antenatal care should remain unchanged following a period of self-isolation.

5.3. Woman admitted to hospital with Covid-19

For clinical guidance on inpatient care for women with suspected/confirmed Covid-19 in Maternity see Appendix G

- For prevention of VTE during COVID-19 infection for pregnant women admitted to hospital see full guideline: Thromboprophylaxis during and up to 6 weeks after pregnancy - full clinical guideline (click here)

- Women who have been seriously or critically unwell from Covid-19:
  - Offer an ultrasound scan to assess the fetal biometry approximately 14 days following recovery from their illness, unless there is a pre-existing clinical reason for an earlier scan.
  - Transfer to Consultant led care with fetal growth monitored as per serial growth scanning pathway.

- In clinically deteriorating patients who are on low dose aspirin prophylaxis in line with PET guidance, discontinuation is suggested for the duration of the infection

6. Babies born to women with confirmed Covid-19 infection

Babies born to women with confirmed Covid-19 will need to be escalated to the Neonatal team *only* if they become ill. NEWTT observations are not specifically indicated for Maternal Covid-19 infection only in the absence of other indicators.

7. Surveillance of Covid-19 positive women

- Women admitted in labour or as an emergency and are expected to stay overnight in the hospital will be routinely screened for Covid-19.
- Women who have a planned admission such as an elective Caesarean Section or Induction of labour are screened prior to admission for the procedure.
- The result should be checked in a timely manner to ensure efficient co-horting and isolation if a positive result is returned.
- The result should be recorded and the patient contacted by staff, with appropriate PHE advice for her and her family on self-isolating, if the patient has been discharged home

8. References

RCOG/RCM Covid infection in pregnancy: Information for health professionals; Version 13; 19 February 2021

MBRRACE-UK (2019) reports: www.npeu.ox.ac.uk/mbrrace-uk

Knight Marian, Bunch Kathryn, Vousden Nicola, Morris Edward, Simpson Nigel, Gale Chris et al. Characteristics and outcomes of pregnant women admitted to hospital with confirmed SARS-CoV-2 infection in UK: national population based cohort study BMJ 2020; 369 :m2107 www.bmj.com/content/369/bmj.2107.full

Appendix A – Patient information leaflet – Covid vaccine in pregnancy

Latest leaflet available separately on KOHA as child document as regularly updated nationally

Appendix B – Letter following vaccination discussion No longer mandatory for vaccination hub

Place hospital sticker or complete full name, hospital number and DOB

NHS
University Hospitals of Derby and Burton
NHS Foundation Trust

Clinical Team
Vaccination Hub

Dear Colleague,

The above woman is currently pregnant and is seeking Covid-19 vaccination.

This is to confirm that we have discussed the potential risks and benefits of receiving a Covid-19 vaccination compared to the risks of not receiving a Covid-19 vaccination. To inform this discussion we have used the RCOG Information leaflet published on 14th May 2021, covering the different options, risks, benefits and side effects, a copy of which has been made available to the woman.

She understands and acknowledges that there is no published data relating to the safety or efficacy of any of the current Covid-19 vaccines, and would like to proceed with vaccination.

We would be grateful if you could provide this woman access to vaccination.

Yours sincerely,

Name:
Designation:
GMC/NMC number:
Date:

Appendix C – Sticker

Advised to contact Maternity Services in case of a positive Covid-19 PCR test result ☐	
Patient information leaflet related to Covid-19 vaccination provided and discussed ☐	
Signposted to information on how to arrange a vaccination ☐	

Following questions asked: (date/initial in box)	CMW booking	ANC booking	28/40
Do you know the symptoms of Covid-19?			
Do you know how to access help/testing if you develop symptoms?			
Do you know how to access help if you have pregnancy concerns?			
Are you taking vitamin D supplements			

Appendix D: Checklist for pregnant women with COVID-19 infection

CHECKLIST FOR PREGNANT WOMEN WITH COVID-19 INFECTION			
Name:	Hospital number:	DOB:	
Named midwife:	Named consultant:	Gestation:	
Date PCR positive test:	Date onset symptoms:		
Interpreter required:	VTE score (see other side):	Phone no:	
Thromboprophylaxis threshold met:	☐No ☐Yes: <28 weeks, score ≥4	☐Yes: ≥28 weeks , score ≥3	
If threshold met and remains home:	☐PX arranged ☐Thromboprophylaxis explained ☐CMW visit arranged		
Complex social factors:	☐ asylum seeker / refugee	☐ (previous) social care / safeguarding involvement	
☐ alcohol / drugs abuse	☐ poor or no spoken English	☐ suffering or suffered domestic abuse	☐ age <20
☐ severe psychological/mental health/mental disability issues needing specialist care		☐ recently migrated to the UK	
Clinical and social risk factors associated with increased hospitalisation with Covid-19:	☐ Black, Asian or minority ethnic background	☐ BMI >30	☐ age >35 years old
	Medical comorbidities: ☐ Hypertension	☐ Diabetes	☐ Heart disease
	☐ Chronic kidney disease	☐ Asthma/respiratory disease	☐ Immunosuppression
	Obstetric risk factors:	☐ Reduced fetal movements	☐ FGR
	☐ Suspected preterm labour	☐ Under care of fetal medicine team	

If any concerning symptoms as below identified; advise to attend labour ward if 20+ weeks gestation. If below 20 weeks discuss with registrar place for admission (may be more suitable to direct to A&E). Inform labour ward or alternative location of expected admission. For all other women, continue form.

Document on first contact. Additional contacts: contact the woman every 2-3 days in first 10 days if applicable (complex social factors) or document if woman contacts us	Date/time	Date/time (if applicable)	Date/time (if applicable)

Severity of Covid-19	Shortness of breath / difficulty breathing	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
	Difficulty completing short sentences without needing to stop/gasp for air	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
	Coughing blood	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
	Pain or pressure in chest (other than with coughing)	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
	Unable to keep liquids down	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
	Less responsive than normal or becoming confused while talking	☐Yes ☐No	☐Yes ☐No	☐Yes ☐No
Checklist	Advise given to remain well hydrated and mobile			
	Advise given to contact MAU/PAU if deterioration occurs and/or they have concerns related to their own or their baby's health			
	Clinic and scan appointments checked and deferred			
	Named midwife informed			
	If *symptomatic* woman with risk factors related to increased hospitalisation with COVID-19: discuss need for admission/follow up advise with clinician			
Symptoms and advice	Fetal movements: Comments:			
	Fetal movements: Comments:			
	Fetal movements: Comments:			

Printed copies available in PAU/MAU which includes VTE scores on back (for reference as needs completing on electronic system), as this version not suitable

Appendix E: risk factors and symptoms of severe illness

These lists are not exhaustive and need to be personalised on an individual base.

Complex social factors often present where women delay accessing care, repeat non-attendance of organised appointments or do not access any antenatal care prior to labour:

- Women who are young (aged < 20 years old)
- Women who have previous social care or safeguarding involvement.
- Women who are suffering or suffered domestic abuse
- Women who abuse alcohol and or drugs
- Women with severe psychological/mental health or mental disability issues needing specialist care
- Women no or poor spoken English.
- Women who recently migrated to the UK
- Women who are asylum seekers or refugees

Symptoms suggesting severe COVID-19 illness:

- Shortness of breath/difficulty breathing
- Difficulty completing short sentences without needing to stop/gasp for air
- Coughing blood
- Pain or pressure in chest (other than with coughing)
- Unable to keep liquids down
- Less responsive than normal or becoming confused while talking

Clinical and social risks factors associated with increased hospitalisation with COVID-19**:**

- Age >35 years old, BMI >30
- Black, asian or minority ethnic background
- Medical co-morbidities:
  - Diabetes
  - Hypertension
  - Asthma/respiratory disease
  - Heart disease
  - Immunosuppression
  - Chronic kidney disease
- Obstetric risk factors:
  - Fetal growth restriction
  - Under care of the fetal medicine team
  - Suspected preterm labour
  - Reduced fetal movements

Appendix F: Flowchart for Community

When community team receive notification of women under maternity care requiring outpatient Thromboprophylaxis due to Covid-19 infection:

- Collect prescription and sharps bin
- Plan a home visit to:
  - Deliver LMWH prescription and sharps bin
  - Teach safe self injecting
  - Complete an AN check

When community team receive notification of women under their care having reported confirmed Covid-19 infection:

- Check when next appointment is booked
- Consider safety of deferring appointment or provide alternative option e.g. phone consultation or home visit
- Reitterate advice to ensure to stay well hydrated and mobile

Assure the woman is aware of when and where to escalate deterioration

CARE FOR WOMEN WITH SUSPECTED/CONFIRMED COVID-19 IN MATERNITY

Click here for Covid resuscitation guidelines

Click here for full RCOG guidelines

DETERIORATING MATERNAL CONDITION

Early escalation to Senior obstetrician + Anaesthetist and inform Coordinator + Neonatal team

CONSIDER PNEUMONIA

Organise chest XR if ***either*** of these apply:

⇒ Hypoxia, defined as Sats on air ≤94%

⇒ Meets COVID symptom definition / positive swab AND lower respiratory symptoms

NO PNEUMONIA AND O2 SATS ≥94%

Continue observations

NO PNEUMONIA AND O2 SATS <94%

- **Inform respiratory team**
- Commence (prescribe) oxygen treatment:

⇒ Titrate to keep ≥94%

⇒ Use the lowest flow rate necessary to do this

⇒ See below (oxygen therapy) for weaning guidance

IF ≥35% FiO_2 (FLOW RATE 4L/MIN) REQUIRED

ABNORMAL CXR

IMMEDIATE REFERRAL TO RESPIRATORY TEAM

Patients with pneumonia and an oxygen requirement are given Prednisolone 40mg OD (oral) or Hydrocortisone 80mg BD (IV) for 10 days or until discharge whichever is sooner. If no adequate response to revert to Dexamethasone 6mg OD (oral or iv) (additionally to steroids for lung maturation if preterm).

ANTI-VIRAL THERAPY

For the acute management of infection, treatment and therapy options using various antivirals and (anti-IL6) Ill-2 should be instigated as a MDT discussion which includes infection specialists. This includes discussion and decision for using alternatives to the standard recommended interventions either when patient is not responding to treatment, or the non-availability of primary treatment option and the consideration for recruitment into an eligible clinical trial

OXYGEN THERAPY

- Nasal cannula (0.5-6L/min) preferred option for most (if not successful to escalate to respiratory team).
- Surgical facemask can be worn with these to improve infection control.
- Trial of weaning only if patient is clinically stable or improving and has maintained Sats ≥94% on O_2 for 4 hours or more.
- Once Sats ≥94% on air: stop O_2 and recheck SpO_2 after 15 min

Device	Flow Rate (L/min)	% O_2 Delivered (FiO_2)
Nasal Cannula	1	24
	2	28
	3	32
	4	36
	5	40
	6	44

HOW TO CONTACT THE RESPIRATORY TEAM

a. If urgent – Respiratory Consultant on call 24/7 - via switchboard (or 07879 115941 (RDH))

b. If urgent - Respiratory registrar (9-5 weekdays) - via switchboard (or 07879 115510 (RDH))

Documentation Control

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Version control for UHDB merged document:			
1	Nov 2020	Miss S Raouf; Obstetric Consultant ACD Mr T Bewick; Respiratory Consultant	Care during COVID pandemic
2	Dec 2020	Miss S Raouf	Prednisolone first line steroid treatment as per regional consensus
3	30/04/2021	Miss Tirlapur – Consultant Obstetrician C Meijer – Risk support midwife	Guideline extended to include RCOG guidance, risk stratification and guidance on women at home with Covid, Covid-vaccination
3.1	24/06/2021	C Meijer	Removal of PIL as now on KOHA as child document to allow regular update
4	01/12/2021	Miss S Rajendran – Consultant Obstetrician	Amended as per RCOG Nov update
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To be read in conjunction with: Thromboprophylaxis during and up to 6 weeks after pregnancy			
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