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2. Labour and birth

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Keywords:
COVID-19
Pandemic
Intrapartum care
Foetal monitoring
Waterbirth
Skin to skin

Abstract

This chapter describes the national guidance for care during labour and childbirth in the United Kingdom during the COVID-19 pandemic. The content largely draws attention on the guidance developed by the Royal College of Obstetricians (RCOG) and the Royal College of Midwives (RCM), and specific guidance on infection prevention and control measures from Public Health England. The key areas addressed are as follows:

- Testing of pregnant women before and on admission for labour and birth
- Overall approach to intrapartum care for women with and without symptoms of COVID-19
- Timing, place, and type of birth considerations
- Personal Protective Equipment (PPE) during labour and birth – for staff, women, and birth supporters
- Use of birthing pools and waterbirth
- Foetal monitoring
- Immediate care of the newborn and support for breastfeeding.

The chapter refers to some of the ways in which the guidance was translated in practice.

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The guidance was developed using a rapid analysis approach to emerging research and evidence, along with evidence from previous experiences of coronavirus combined with consensus expert opinion from all key professionals providing maternity care in the UK.

What is known: The UK RCOG/RCM COVID-19 guidance was widely accepted across the UK maternity services and also worldwide as a reliable and credible source of information to shape care during the pandemic.

What is not known: The full impact of the pandemic on the experiences and outcomes for babies and women of pregnancy, childbirth, and early parenting in the UK. The impact of the new approaches to intrapartum care on experiences and outcomes for women, babies, and families. The impact of the changes required to intrapartum care as a result of the pandemic on the professional care provided; in terms of pressure created by rapidly changing approaches to care and restrictions on the ability to provide normal levels of care.

Introduction

The COVID-19 pandemic has affected every aspect of maternity care in the UK. This chapter describes some of the key changes in the care of pregnant women during labour and childbirth during the COVID-19 pandemic in the UK—drawing attention to the guidance developed and continually updated during 2020 and into 2021; by the two leading UK professional associations for maternity health professionals: the Royal College of Obstetricians and Gynaecologists (RCOG) and the Royal College of Midwives (RCM), and the guidance provided by the UK Government and national NHS bodies. The chapter also reflects the practical implications of the changes and examples of how the national guidelines were translated at a clinical level in maternity services across the UK.

The chapter begins by setting the context for those less familiar with the maternity care system in the UK. It then focuses on a number of elements of intrapartum care: testing of pregnant women before and on admission for labour and birth; overall approaches to intrapartum care for women with and without symptoms of COVID-19; timing, place, and type of birth considerations; Personal Protective Equipment (PPE) during labour and birth—forskaff, women, and birth supporters; use of birthing pools and waterbirth; foetal monitoring, and immediate care of the newborn.

Context

To place the guidance developed for maternity care during the pandemic in context, it is helpful to understand the maternity care system in the UK.

The UK has four national health services (NHS) in the devolved nations of the UK: England, Scotland, Wales, and Northern Ireland.

The great majority of nearly 700,000 births in the UK each year take place in NHS maternity units. The UK has a ratio of around one midwife for every 27 births [1], with NHS midwives providing antenatal, intrapartum, and postnatal care in both community and hospital settings. All women giving birth in the UK are cared for by a registered midwife during their labour and birth, with some also receiving care from obstetricians. A great majority of women in the UK give birth in obstetric led maternity units (86.5%), approximately 10% of women give birth in midwifery units, 1–1.5% in free-standing midwife units, and 1.5% of women on average give birth at home [2]. It is recommended as a standard in antenatal care across the UK that choices around the place of birth are discussed with every woman, enabling informed decision making based on the woman’s choice, having been advised of the
risks and benefits of the different places of birth for her as an individual. It is an established and expected good practice in all labour settings across the UK that women will be provided with continuous one-to-one support by a registered midwife throughout the established labour.

Maternity care across the UK is most commonly guided by the range of guidance on pregnancy, intrapartum, and postnatal care from the National Institute for Health and Care Excellence (NICE) [3] with services in Scotland, and also by using guidance from the Scottish Intercollegiate Guidelines Network (SIGN) [4].

The RCOG and RCM are professional associations. The RCOG provides evidence-based ‘Green top’ guidelines, with the RCM also publishing ‘Blue top guidelines’ [5]. During the early days of the pandemic, it was agreed that the RCM and RCOG would co-develop and badge the COVID-19-related purple guidance documents: for overall pregnancy care, antenatal and postnatal care, and midwife-led care settings [6].

Health is an issue that is devolved to the four nations of the UK, and with separate Government health departments and National Health Services, the response during the early period of the COVID-19 pandemic was led by the UK Government and the relevant English bodies; particularly, Public Health England (PHE) and NHS England (NHSE). The four nations agreed to take a unified approach to the pandemic response as possible, with a ‘single point of truth’ on key issues such as PPE guidance for health and social care staff, produced by PHE. The RCOG and RCM guidance was recognised and employed as the single point of guidance in providing clinical maternity care in all four countries. As the pandemic evolved during 2020, some variations developed not only in approach and guidance to overarching social lockdown measures, but also in the areas of healthcare configuration, such as visiting guidance, testing policies, and vaccination approaches between the four nations.

The approach to clinical care during labour and birth during the pandemic remained largely uniform and based on the RCOG/RCM guidance in all Trusts and Health Boards across the UK.

Testing: principles and practice

During the first phase of the pandemic in the UK, there was no mass population testing for the presence of the virus. From March to May 2020, people with symptoms of COVID-19 were generally offered testing only if they had symptoms that required medical treatment or admission to hospital. From May 2020, hospitals developed approaches to pre admission and on admission testing—supported by an RCOG framework for testing in maternity services, which was published in May 2020 and then archived in December 2020, as it became superseded by other national guidance [7]. Maternity services across England introduced programmes of testing for pregnant women for planned admissions; and on admission for intrapartum care, polymerase chain reaction (PCR) testing was performed, with testing approaches developed later in 2020 in the other UK countries.

In July 2020, NICE published ‘COVID-19 rapid guideline’—arranging planned care in hospitals and diagnostic services [8], which set out an approach to planned care and is applicable to pregnant women booked for a planned admission for elective caesarean or induction of the labour. The approach advises the following where possible:

- ‘Follow comprehensive social-distancing and hand-hygiene measures for 14 days before admission,
- Have a test for SARS-CoV-2 no more than 3 days before admission and ensure the results are available beforehand,
- Self-isolate from the day of the test until admission [8] (p11, NICE, 2020)’.

The RCOG testing framework was replaced in December 2020 by NHS England and Scotland guidance, recommending that all women should undergo testing for SARS-CoV-2 when they are admitted to the maternity units to give birth [9].

In England, the guidance advised that this rapid lateral flow testing should also be provided to test partners and support people to enable them to attend maternity appointments with women [9].

In practice, most women are offered testing on admission, but even in early 2021, a significant proportion continue to be cared for in labour while their status was unknown as PCR test results were
awaited. The widespread testing of support people and partners has also presented issues in practice, with problems related to the availability of adequate staff, tests, and physical environments that enable the testing of all partners before all appointments or admissions. Services across the UK continue to develop their capacity and efficiency in relation to testing for intrapartum admission: some areas are developing more rapidly, such as the reliable ‘point-of-care’ testing for all women admitted for intrapartum care and their birth partner. Even if a widespread, efficient infrastructure system is developed, testing will not be universal as some women and their partners will not give consent to be tested. There have been reports of some partners declining a test because of their concern that they would not be allowed to stay with their partner, if the test is positive. There have also been suggestions that some women have declined a test as they are concerned about the implications of a positive result on their care: for example, their partner may be asked to leave the hospital to go home to self-isolate if the test is positive, and the woman fears she may not be able to access the kind of care she was planning, such as the use of the birthing pool for pain relief.

Guidance has been developed to address the implications of care on a range of possible scenarios:
1. An asymptomatic woman testing positive for COVID-19.
2. An asymptomatic woman declining a test or with an unknown test result during the care episode.
3. A symptomatic woman testing positive for COVID-19.
4. A symptomatic woman testing negative for COVID-19.
5. A symptomatic woman declining a test or with an unknown test result during the care episode.

1. An asymptomatic woman testing positive for COVID-19

The advice from the overarching national RCOG/RCM ‘COVID-19 in pregnancy’ is that women with symptoms of COVID-19, with or without a test result confirmation, should be advised to give birth in an obstetric-led unit, to monitor her condition and the fetal condition during labour. This guidance states that if a woman tests positive for SARS-CoV-2 within 10 days before birth but is asymptomatic and wishes to give birth at home or in a midwifery-led unit, it is recommended that an informed discussion around the place of birth takes place with the midwife. This leaves the decision about the place of birth open for individual assessment and consideration [6].

Considerations about foetal monitoring during labour are explored in more depth below.

The recommendation for asymptomatic COVID-19 positive women and those with an unknown COVID status has remained as per the NICE Clinical Guideline [CG190] on intrapartum care for healthy women and babies [10].

2. An asymptomatic woman declining a test or with an unknown test result during the care episode.

National guidance recommends that the intrapartum management of asymptomatic women with an unknown COVID-19 status should be treated as if they are COVID-19 negative, with the usual precautions taken by staff caring for all women during the pandemic, including PPE, social distancing, and careful infection prevention and control measures [6].

3. A symptomatic woman testing positive for COVID-19

The RCOG/RCM joint guidance recommends that women with mild COVID-19 symptoms can be encouraged to remain at home in self-isolation during early labour with consistent routine care. If a woman with mild COVID-19 symptoms attends the maternity unit before labour is established, she should be offered a test and if there are no concerns with regard to the health of either the woman or baby, can be advised to return home until labour is more established, unless private transport is not available.

Women with symptoms of COVID-19 should be provided with usual advice regarding the signs and symptoms of labour, be informed about symptoms that might cause deterioration related to COVID-19, and should be advised to call back if concerned.
If a woman describes more severe COVID-19 symptoms, she should be advised to attend the maternity unit for a full assessment and to remain in the hospital for observation and any required treatment.

On admission, the RCOG/RCM overall guidance advises a full maternal and foetal assessment, including:

- Assessment of the severity of COVID-19 symptoms by the most senior available clinician.
- Maternal observations that include temperature, respiratory rate, and oxygen saturation.
- Confirmation of the onset of labour, as per standard care.
- Inform the following members of the multidisciplinary team (MDT) about the admission of the woman: consultant obstetrician, consultant anaesthetist, midwife-in-charge, consultant neonatologist, neonatal nurse-in-charge, intensivist responsible for obstetric care, and the infection control team.
- Perform standard hourly maternal observations and assessment (as per the recommendations in NICE CG190, Intrapartum care for healthy women and babies), with additional monitoring of hourly oxygen saturation. Oxygen therapy should be titrated to aim for saturation above 94%.
- Offer continuous electronic foetal monitoring to symptomatic women with confirmed or suspected COVID-19 during labour and vaginal birth.
- There are no contraindications when performing a foetal blood sample collection or using a foetal scalp electrode.
- Minimise the number of staff members entering the room, and units should develop a local policy specifying essential personnel for emergency scenarios [6].

The World Health Organisation (WHO) has produced guidance on the clinical management of COVID-19, identifying that in women with symptomatic COVID-19, there may be an increased risk of foetal compromise in active labour [11].

4. A symptomatic woman testing negative for COVID-19

To be treated as a symptomatic woman who has tested positive, as explained above.

5. A symptomatic woman declining a test or with an unknown test result during the care episode

To be treated as a symptomatic woman who has tested positive, as explained above.

Considerations for labour and birth for women who have recovered from COVID-19

For those women who have had COVID-19 during pregnancy and recovered without hospital care, and who have completed self-isolation in line with public health guidance, there is no change to planned care during labour and birth.

Women who have recovered following a hospital admission for serious or critical COVID-19 illness and need supportive therapy, should have a personalised assessment and discussion about plans for labour and birth based on foetal growth, other indicators of foetal wellbeing, the woman’s current health, and other preferences.

Timing, place, and type of birth: principles and practice

The overarching approach from the Royal Colleges and maternity services across the UK has been that the principles of intrapartum care should remain as unchanged as possible during the pandemic: this includes the timing, place, and type of birth.
Timing

Practice in relation to the timing of labour induction or elective caesarean section has possibly aimed to continue in line with national and local pre-pandemic guidance; including NICE guidelines on the induction of labour [12], care of women with existing medical conditions or obstetric complications [13], and caesarean section [14].

The overarching RCOG/RCM guidance has recommended that such decisions need to be made and continued on an individual basis, taking into account women’s preferences and any obstetric or foetal indications that might intervene. Where a woman is required to self-isolate because of COVID-19 or in a household contact, consideration may be given to delaying an elective caesarean birth or the induction of labour. Such a decision should be based on the consideration of the urgency of the birth weighed against the risk of transmission to others in the maternity unit, and postnatally, to the baby.

If a woman becomes unwell with COVID-19 and requires hospital care and treatment, senior multi-disciplinary obstetric and a medical assessment is required to determine the risks and benefits to the mother and the baby of an expedited birth [6].

In practice, the overall national data on birth timing have remained consistent with previous years. There has not been a statistically significant trend for more or fewer preterm births or more or fewer births following prolonged pregnancy in the general pregnant population [2].

However, among women who have been hospitalised as a result of worsening COVID-19 symptoms, there has been an increased rate of preterm births. The rate is three times higher than the normal rate, with 78% of prematurity iatrogenic. That is, medical intervention to expedite birth has been instigated in response to maternal or foetal compromise [15]. Women with asymptomatic COVID-19 were not found to be at a higher risk of preterm birth [15].

One of the factors that may impact on decision-making about the timing of birth, particularly planned procedures, including labour induction and elective caesarean, is the availability of adequate staff. COVID-19 has had a significant impact on staffing levels in maternity services across the UK. This has been because of the higher-than-normal absence levels among all health professionals, with higher rates of sickness, the need to self-isolate, and a proportion of the staff advised to ‘shield’ or work away from patient facing roles owing to their own health condition. Surveys with the Heads of Midwifery across the UK undertaken by the RCM during 2020 identified significantly higher than normal staff absence rates [16]. Many maternity staff, particularly obstetricians, have been redeployed from maternity to provide support to other parts of the service during the peaks of the pandemic [17]. Where staffing pressures have been significant, services have prioritised staffing for intrapartum care, to avoid any delays in procedures which may have an impact on safety.

Place of birth

At a clinical level, the guidance during the pandemic has been clear that for women who are asymptomatic of COVID-19, there is no requirement to change the planned place of birth. Women with symptoms of COVID-19 are advised to labour and give birth in an obstetric maternity unit, so that they can have access to enhanced monitoring, including regular oxygen saturation measurement and continuous electronic foetal monitoring, which are not available in home birth or midwife-led settings.

In practice, however, many units in the UK had no option but to suspend home births to concentrate on the reduced number of available staff to provide a safe service within the maternity unit. There was also concern that, in view of the intense pressure on emergency ambulance services, if an urgent transfer of a mother or baby from home to the hospital was required, it might not be available.

Type of birth

There is no evidence to favour one type of birth over another in women with COVID-19 in relation to the risks of vertical infection transmission.

In the UK based study of all pregnant women admitted with confirmed COVID-19 during the first wave of the pandemic, 12 (5%) babies tested positive for SARS-CoV-2 infection; six within the first 12 h (two were born by unassisted vaginal birth and four by caesarean birth) and six after 12 h (two born vaginally and four by caesarean birth) [15]. No change is observed in the rate of neonatal COVID-19 infection when babies are born vaginally, breastfed, or when they stay with their mother after birth [18].
The UKOSS data identifies that women who have been admitted unwell with COVID-19 to the UK hospitals are more likely to have a caesarean birth, with a caesarean section rate of 59% in the first UKOSS study and 49% in the updated study, compared with 29% for a historical control group in 2018 [15]. More research will be required to fully understand the reasons for this significantly higher rate, though it appears that the decision is likely made for a number of reasons:

- Higher rates of foetal compromise identified during labour in women with COVID-19,
- The woman’s condition deteriorates during labour, indicating the need for increased respiratory support and treatment,
- Clinicians identify that the woman’s condition is so severe that to commence more invasive treatment and respiratory support, the birth of the baby must be rapidly expedited.

**Personal protective equipment: principles and practice**

Before the COVID-19 pandemic, maternity care professionals in the UK wore some personal protective equipment (PPE) when providing care during labour and childbirth. This was generally non-sterile gloves and a plastic apron for birth, with the option of eye protection. Masks were generally worn only in theatre for operative births.

Previously, for patients and visitors attending hospitals, there was no need to wear masks or face coverings.

Since the start of the COVID-19 pandemic, it has been accepted by all UK administrations and the RCOG and RCM that PPE guidance from Public Health England will be the adopted standard [19]. The RCOG and RCM, along with other stakeholders, were involved in the consultation process around the different levels of PPE for the different aspects of care [20].

When providing early labour care in hospital or community settings, health professionals are advised to wear:

- A fluid resistant surgical mask
- Disposable gloves
- A fluid resistant apron
- Eye protection

When providing care for women in advanced labour and during birth, health professionals are advised to wear what is described as ‘droplet’ PPE:

- A fluid resistant surgical mask
- Disposable gloves
- A fluid resistant apron (fluid resistant gown where the woman has symptoms or has been confirmed to have COVID-19)
- Eye protection

When in theatre, where there is a greater likelihood of an aerosol generating procedure (AGP), such as intubation for a general anaesthetic, health professionals are advised to wear ‘aerosol PPE’, that is respirator (FFP3) masks in addition to the above PPE. In practice, this requires clear lines of communication and decision making between MDT and theatre teams before going into the theatre to determine the likelihood of an AGP requirement. For neonatology professionals, who were asked to attend for review and potential resuscitation of the newborn of a woman with suspected or confirmed COVID-19, the British Association of Perinatal Medicine (BAPM) advises that—if the mother is not undergoing any AGPs, droplet PPE (fluid resistant surgical mask (FRSM), apron, gloves, and eye protection) is sufficient for airway positioning and/or oropharyngeal suctioning of the baby. An FFP3 mask is required for any other neonatal airway procedures [21].

In the early weeks of the pandemic, there were difficulties in some maternity settings in accessing adequate supplies of PPE, but supplies have been adequate since late April 2020. Some clinical areas
faced challenges to provide maternity staff with appropriate areas to safely don and doff PPE and with a consistent supply of the same brand of FFP3 masks to a unit. The practice to don and doff PPE has been identified as a particular challenge for midwives supporting women during a homebirth.

Over the first weeks and months of the pandemic, guidance evolved in relation to advice to the public about wearing masks and face coverings. Health professionals were advised to wear face masks only when providing clinical care. From June 2020, health staff, visitors, and patients were advised to wear a mask or face covering in all the non-clinical areas of the hospital at all times [22]. Women and partners in maternity care were asked to wear a face covering when they had appointments or were at the antenatal or postnatal ward. Partners and support people were advised to wear a mask or face covering when supporting a woman during labour and birth. Women were not asked to wear a mask or face covering when they were in labour and giving birth [23]. This recommendation was based on the assessment that there is potential harm in advising women to wear masks during labour and birth that might trigger traumatic memories, reduction in their ability to use particular methods of pain relief including Entonox and water, the exacerbation of respiratory conditions, limitations on communication, discomfort, and overheating [23].

Pain relief

Entonox is commonly used in all UK maternity settings for pain relief during labour and around 80% of women use it [24]. During the early days of the pandemic, concerns were raised that the use of Entonox might constitute an AGP. However, the clear advice from Obstetric Anaesthetists Association and RCOG and RCM were that Entonox is not an AGP and could be safely offered with a standard single-patient microbiological filter.

The RCOG/RCM guidance suggested that women with symptomatic or confirmed COVID-19 who go into labour, may be advised of the potential benefit of reducing a general anaesthetic need if an emergency caesarean is required – by having an epidural anaesthetic in situ. No contraindication for the use of epidural or spinal analgesia or anaesthesia in women with COVID-19 has been identified. Intubation, which is required during a general anaesthetic, is an AGP, which significantly increases the risk of transmission of SARS-CoV-2 to the attending staff.

In practice, maternity services have sought to maintain intrapartum care, including advice and support for women with and without COVID-19 in managing their pain during labour as normal as possible throughout the pandemic. This includes, but is not limited to, ensuring that the woman has a birth support partner of her choice, and one-to-one support of a midwife—who is able to provide reassurance and advice on pain management through non-pharmacological approaches such as changing position and remaining active in the labour room, by using breathing and relaxation techniques, and massage. Midwives also provide advice on a range of pharmacological methods of pain relief, which have been provided to women throughout the pandemic.

Use of the birthing pool for labour and birth

The use of water as a form of pain relief has become a common practice in maternity care in the UK since the early 1990s. Around 10% of women give birth in a birthing pool and around 20% use the pool as a form of pain relief during labour [24].

In the early days of the pandemic, with limited understanding about the virus and how it was transmitted, some maternity units made the decision to discontinue the use of birthing pools. This led to complaints and concerns raised by women, service user representative groups such as Maternity voices partnerships (MVPs), and some midwives.

Public Health England and the RCOG/RCM joint guidance stated that the use of water as pain relief and the option to give birth in the water was not contraindicated for women who are asymptomatic of COVID-19 and if presumed or confirmed as SARS-CoV-2 negative, adequate PPE can be worn by those providing care. However, for women who are symptomatic of COVID-19 with a cough, fever, or unwell feeling, labour and birth in water is not recommended. This is largely to enable adequate enhanced monitoring of the mother and baby [5].
For asymptomatic women testing positive for SARS-CoV-2, there is currently a lack of certainty about any potential increased risk of transmission to caregivers or to the baby during birth in the water. As the virus has been found in two studies in a faecal stool sample, there is an identified potential risk of transmission through faeces [25]. As women often pass stools during the later stages of labour and birth, there is a theoretical risk that a woman could pass the virus to her baby or her attending midwife during the birth process, if infected stools reach and contaminate the water in the birth pool.

The RCM, in its professional briefing on the topic, advises an individualised informed discussion between the woman and the midwife, to reach a decision [26].

Research published during the course of 2020 provided reassurance that the warm, humid nature of a birthing pool room should not present an increased risk of transmission, as the following were identified:

- The virus is less likely to be readily transmitted in respiratory droplets from one person to another in a well-ventilated room than in a closed room with very still air [27].
- SARS-CoV-2 is extremely unlikely to survive and remain active in clean drinking water supplies, although it has been found in wastewater supplies and sewage systems [28]. It is unclear whether the virus can be transmitted through wastewater [29].

Warmer, more humid environments have been found to be difficult for the virus in terms of survival and movement. It has been found that the virus lives longer in low temperatures (a half-life of more than 24 h at 10 °C compared to 1 ½ hours at 27 °C) and in lower humidity (more than 24 h in relative humidity of 40%, just 1 ½ hours at a relative humidity level of 65%) [30]. In practice, it appears that the majority of maternity services in the UK have continued to provide birthing pools as an option for women in labour. The RCM undertook a series of unpublished surveys with the Heads of Midwifery during the first wave of the pandemic and these surveys identified that, by the end of April 2020, more than 80% of the services that responded were providing waterbirth as normal for asymptomatic women.

**Foetal monitoring**

Maternity services in the UK generally base their intrapartum monitoring practices on the NICE clinical guideline on ‘Intrapartum care for healthy women and babies’ [10]. In an overview, this recommends that women at low-risk of complications in the established labour should not be routinely offered continuous electronic foetal monitoring. Intermittent auscultation of the foetal heart rate should be offered to women at low-risk of complications in the established first stage of labour; auscultating immediately after a contraction for at least 1 min and every 15 min [10]. CEFM is recommended to be commenced if any concerning features develop during the labour including maternal pyrexia or tachycardia and if abnormalities of the foetal heart rate are noted on intermittent auscultation.

The RCOG/RCM guidance recommends following their guidance for women without symptoms of COVID-19. Foetal compromise has been identified in women who are symptomatic of COVID-19 in some studies [31], and so, CEFM is recommended for women with symptoms. However, this has not been replicated in asymptomatic women who tested positive for SARS-CoV-2. The need for CEFM for asymptomatic women who test positive for SARS-CoV-2, but who are otherwise at low-risk for labour is an area of clinical uncertainty because of the lack of robust evidence. Therefore, it is important that asymptomatic women of low obstetric risk should continue to have the risks and benefits of CEFM discussed with them on a holistic basis.

When participating in informed discussions with women about fetal monitoring, acknowledge that evidence of an increased risk of foetal distress is based on the small numbers of babies born to women symptomatic of COVID-19 and theoretical risks extrapolated from pregnancies affected by FGR in women with other coronaviruses.

It is not recommended to undertake CEFM during labour using cardiotocography (CTG) solely because of a positive test and CEFM should only be used if it is required for another reason.
Immediate care of the newborn

It is normal practice in the UK for women and their babies to remain together at all times after the birth, unless the newborn requires medical care and transfer to the special or intensive care unit.

In line with NICE and WHO guidance, which recommends that women are encouraged to have skin-to-skin contact (where the baby is placed naked, directly on their mother’s naked chest or abdomen) with their baby as soon as possible after the birth [10], the practice of skin-to-skin in the first hour of birth is a normal practice in UK maternity services. Survey results from the CQC in 2018 identified that most women (93%) said they had skin-to-skin contact following the birth [24].

Present evidence suggests that if vertical transmission does occur (transmission from woman to her baby antenatally or intrapartum), it is uncommon. If it does occur, it appears not to be affected by the mode of birth, method of feeding, or whether the woman and baby stay together (rooming in) [32].

There is no other evidence that the practice of delayed cord clamping or skin-to-skin contact between mother and baby increases the transmission of SARS-CoV-2 to the neonate [33]. The well-documented benefits of these practices should be discussed with the woman to make an informed choice and implemented in line with pre-pandemic practice. In the absence of other evidence, NICE CG190 should be followed.

It is recommended that all normal care practices and examinations of newborns are undertaken, whether or not the mother is positive.

The long-term benefits to women and babies of close, uninterrupted contact in the first minutes, hours, and days after birth and breastfeeding are well-documented [34]. The unequivocal advice from the RCM, RCPCH (Royal College of Paediatrics and Child Health), and the RCOG is that women with suspected or confirmed COVID-19 should remain with their baby and be supported to practice skin-to-skin or ‘kangaroo’ care, if the newborn does not require additional medical care at this time. Where the baby of a woman who has suspected or confirmed COVID-19 needs to be cared for on the neonatal unit, to minimise any risk of woman-to-infant transmission, a precautionary approach should be taken [35]. A risk and benefits discussion between neonatologists and families should take place to individualise care in babies who may be more susceptible to infection.

Babies born to SARS-CoV-2-positive women should be cared for as per guidance from the RCPCH. Women should be supported to make an informed decision regarding their choice on the infant feeding method. Women who choose to breastfeed should be supported to do so, even if they have probable or confirmed COVID-19. The evidence to date suggests that the benefits of breastfeeding outweigh the potential risks of infection in the neonate. Women and their families should be informed that infection with COVID-19 is not a contraindication to breastfeeding. Women should be provided with advice about appropriate hygiene and infection prevention methods, including hand hygiene and wearing a mask when feeding or holding the baby.

A prospective cohort study in the UK investigating SARS-CoV-2 infection in the first 28 days of life found that neonatal infection is uncommon: 66 babies with confirmed SARS-CoV-2 infection (an incidence of 5.6 per 10,000 livebirths, 95% CI 4.3–7.1), of whom 28 (42%) had severe neonatal SARS-CoV-2 infection (incidence 2.4 per 10,000 livebirths, 95% CI 1.6–3.4), and that infection with neonatal admission following birth to a mother with perinatal SARS-CoV-2 infection was unlikely; consequently, this study supported guidance to avoid separation of the mother and baby [36].

Summary and conclusions

The COVID-19 pandemic has led to an unprecedented need for a rapid, evidence-based, reliable national guidance to enable local maternity services to provide the safest maternity care possible. The Royal Colleges have worked collaboratively with each other and with national administrations to provide this guidance. During the early months, the overarching RCOG/RCM COVID-19 in pregnancy guidance was very frequently updated, sometimes more than weekly, with 12 versions produced between March and October 2020, whereas version 13 was published on 19th February 2021. This then required local maternity services to rapidly digest and translate the national guidance into workable local policies and procedures. Maternity care leaders and professionals have shown remarkable
responsiveness to these rapid changes; adapting and changing their practice in the light of emerging evidence.

For women and their families, the COVID-19 pandemic has given a dramatic and stressful backdrop to their pregnancies and early parenting experiences. Maternity services have sought to provide normal possible intrapartum care to families throughout each stage of the pandemic—though this has without doubt been affected by the resulting staffing pressures, at times invasive nature of the PPE, infection prevention and control procedures, the restrictions placed on the number of birth partners, the amount of time a partner was able to spend in the maternity unit, and the additional interventions required to treat women who became unwell with COVID-19.

This paper has not sought to explore the important topic of women’s experiences of intrapartum care during the pandemic. Research studies are presently underway to understand the impact of this context on women’s experiences of labour and birth and these will be reported elsewhere.

This paper has also not sought to explore the impact of the changes to intrapartum care on those providing care. The rapidly changing guidance, the staff shortages, the need to wear full PPE for many hours and caring for women in families experiencing increased stress and distress as a result of the pandemic, will undoubtedly have an impact on staff wellbeing. Research is also currently underway to explore the experiences of maternity care professionals and will be reported elsewhere.

This paper has described the key national guidance developed during 2020 to support the delivery of intrapartum care across the UK, with insights into the way in which this guidance was implemented in local NHS Trusts and Boards.

**Practice points**

- Women with symptomatic COVID-19 infection require increased maternal and foetal surveillance and monitoring during labour and birth.
- Women with symptomatic COVID-19 infection are more likely to experience iatrogenic preterm birth and caesarean section.
- The offer of testing women and partners for SARS-CoV-2 throws up a range of practical issues, including accuracy and reliability of testing, time taken for results to be returned, and whether women and partners agree to be tested.
- Infection prevention and control measures, including PPE for women, staff, and attending partners, should be consistently and carefully maintained during the ongoing COVID-19 pandemic to prevent nosocomial spread.
- The experience of women and partners during labour and childbirth remains a priority of care during the pandemic. Maternity care professionals should continue to strive to provide evidence-based care, providing emotional and physical support to women throughout labour and birth and supporting women to make informed choices about their care.
- Keeping mothers and newborns together should remain the priority of early postnatal care during the ongoing pandemic.

**Research agenda**

A wide range research is required in the following areas:

- The full impact of the pandemic on the experiences and outcomes for babies, and women of pregnancy, childbirth, and early parenting in the UK.
- The impact of the new approaches to intrapartum care on experiences and outcomes for women, babies, and families.
- The impact of the changes required to intrapartum care as a result of the pandemic on the professional care provided; in terms of pressure created by rapidly changing approaches to care and restrictions on the ability to provide normal levels of care.


Declaration of competing interest

No conflicts of interest known for any of the authors.

Acknowledgements

Dr. Mary Ross-Davie is the RCM’s lead on the association’s professional response to the COVID-19 pandemic, which includes leading the RCM’s Expert Clinical Advisory Group, who has authored 21 professional briefings during the pandemic. She also chairs the RCM’s Professorial Advisory group, which developed five rapid evidence reviews and the RCOG joint guidance cell, which has developed all the joint RCOG/RCM national guidance.

The co-authors are consultant midwives working in different parts of the UK, who have been working clinically and leading services throughout the pandemic. In preparation of this chapter, examples of local guidelines and policies in relation to intrapartum care were reviewed from maternity units in the South and North of England and in Scotland.

This has enabled this paper to reflect both the national policy and the realities of local practice.

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