Royal College of Obstetricians & Gynaecologists

Principles for the testing and triage of women seeking maternity care in hospital settings, during the COVID-19 pandemic

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A supplementary framework for maternity healthcare professionals

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Summary of updates

Version	Date	Summary of changes
2	10.08.20	**Statement:** Statement added to outline suitable use of this framework
2	10.08.20	**1**: Wording adjusted to reflect current context and updated to reference the now recommended implementation of NICE guidance moving on from the prior interim NHS England Operational Framework
2	10.08.20	**2:** Wording amended to improve clarity and updated to reference the now recommended implementation of NICE guidance moving on from the prior interim NHS England Operational Framework
2	10.08.20	**3.1,3.2 and 3.3**: Wording amended to improve clarity and flow
2	10.08.20	**3.4**: Link to NHS England framework for urgent care inserted and wording amended for clarity and flow
2	10.08.20	**3.4.1, 3.4.2 and 3.4.3:** Wording and formatting of hyperlinks and bullets amended for consistency and clarity
2	10.08.20	**6:** References updated to reflect the change from NHS England guidance to NICE guidance

Statement

This framework is a dynamic document. It will be continually updated as national guidance evolves, new research emerges, and experience matures.

This document is specific to maternity care in England where universal patient testing has been introduced. The principles described here are suitable for informing the development of testing protocols across the rest of the UK. Guidance on testing and isolation prior to arranged planned care is available from the National Institute for Health and Care Excellence (NICE).[1] Guidance on testing prior to urgent and emergency care and on reducing healthcare-associated infections is available from NHS England. These documents are particularly applicable to gynaecology.

1. Introduction

As the NHS enters the post-acute stage of the COVID-19 pandemic, clinical pathways will need to be adjusted to account for the persisting presence of the virus within the general population, including in asymptomatic carriers. The safety of women, their partners and babies in hospital, and of the staff caring for them, remains the utmost priority. Offering testing to women who are admitted to hospital, including those receiving maternity care, will enable reduction in nosocomial transmission.

As a dynamic document, the content will be updated to reflect the changing guidance across NHS England and the devolved nations.

This document is intended to provide supplementary guidance for maternity services on the implementation of the NICE guideline in the context of maternity care.

The establishment of testing pathways and protocols in maternity should be governed by the following three principles:

i. Pathways should be implemented that aim to reduce the risk of SARS-CoV-2 infection in hospital for women, visitors and for staff

ii. The testing process does not compromise the delivery of safe, quality, personalised and equitable care for all women

iii. All pathways must follow local and national infection and prevention control procedures and continue to implement appropriate use of personal protective equipment (PPE)

2. The position of maternity in relation to the NICE guideline

Maternity care is a core service to which women require undisrupted access at all times.

Maternity care cannot be strictly separated into 'planned' and 'unplanned' care and is primarily offered in a time-sensitive manner. Creating cohort pathways to separate pregnant women having 'planned and elective' care

from those having 'urgent and emergency' (unplanned) care requires consideration that:

i. women with scheduled admissions for birth often need to attend for maternity care in an unscheduled manner because the onset of labour is unpredictable

ii. maternity interventions are frequently arranged at short notice

iii. if women test positive for SARS-CoV-2 pre-admission, an admission for elective birth cannot usually be safely deferred to incorporate a 7-day isolation period

iv. creation of an elective pathway with a 14-day pre-admission self-isolation period for women who are either at higher risk of getting COVID-19, or having a poorer outcome if they are infected, is not compatible with women being able to access essential antenatal care in the time leading up to birth, and is likely to be difficult for women with families (particularly with children returning to school and household members working).

For these reasons, the creation of 'COVID-free' areas within maternity services is currently challenging and may not be possible. Maternity care is a particularly important area for the use of rapid and point-of-care testing as this becomes more readily available in the future.

At the present time, maternity units are recommended to create pathways for women according to suspected or confirmed infection with SARS-CoV-2, in line with NHS England advice for urgent care.

3. Pathways in maternity care

3.1 Who should be tested and when?

All women who are admitted to hospital for maternity care in England should be offered testing for SARS-CoV-2 infection via a reverse transcription polymerase chain reaction (RT-PCR) swab, regardless of whether or not they have reported symptoms.

Where a woman is admitted for birth, whether planned or emergency, her intended birth partner should also be tested under the principle that they are also expected to be present for the duration of her care. For women who test negative on admission, repeat testing should be offered 5-7 days later if they remain an inpatient.

Any woman who has previously tested negative but subsequently becomes symptomatic of COVID-19 should be offered a repeat test immediately.

Women being discharged to a community care unit, e.g. mother and baby unit, should also be offered a test prior to discharge in line with Public Health guidance.

Robust processes must be in place for the daily review and communication of positive results, including in women who are discharged.

As with any test, agreement to testing for SARS-CoV-2 infection is voluntary. The benefits and implications of testing should be discussed with all women and any birth partners, with informed consent obtained verbally. This discussion should be documented in the maternity notes. Units should support and respect women's choices with regards to testing.

Information should be provided to women during the antenatal period explaining the SARS-CoV-2 test and the testing process.

3.2 Creating a 'COVID-protected' elective pathway

A true planned/elective pathway includes a 14-day period of household isolation prior to the admission. It is recognised that this cannot commonly be achieved prior to hospital admissions for maternity care: essential care, including the 38 week of gestation visit for primiparous women, precludes this being possible.

For this reason, the majority of women admitted for maternity care will need to be cared for according to the recommendations for individuals admitted through urgent/emergency pathways.

However, units may still be able to create a 'COVID-protected' pathway, that is a pathway for women admitted for an elective procedure or birth who are unlikely to develop COVID-19 during admission as identified by the following criteria:

- The woman and any intended birth partner have received a negative test result for SARS-CoV-2 three days prior to admission.
- There has been stringent practise of social distancing and hand hygiene measures for a 14-day period before admission.

- The woman and any intended birth partner have self-isolated for the 3 days between the test and the admission.

This would be particularly suitable for women undergoing elective caesarean birth whose intended birth partner is within her household.

The following conditions should be met before creating such a pathway:

- The availability of the test result should provide improved safety for the woman and/or the hospital setting, for example by enabling safer cohorting or by enabling an operation to take place in a 'COVID-free' theatre setting.

- It should be possible for women identified as 'COVID-protected' to be cohorted during their entire hospital stay together (i.e. in 'COVID-protected' bays and/or siderooms).

- If women are to be admitted for birth, it should be possible for testing of birth partners to occur in line with testing for the woman.

Women should not experience any change to their care beyond practical alterations (such as cohorting by possible infection status or scheduling at the end of a caesarean birth list where appropriate) if they are unable to isolate together with their household(s) prior to admission.

3.3 Care for women with a positive SARS-CoV-2 test result pre-admission

Deferral of elective maternity admissions is usually not safe or appropriate. However, where a woman receives a positive test result for SARS-CoV-2 prior to a planned admission, deferral of the admission should be considered by a senior clinician.

Measures must be put in place to review fetal and maternal wellbeing where admission has been deferred. Where clinical concerns arise from the woman or a healthcare professional, immediate assessment is required and likely admission, irrespective of SARS-CoV-2 status.

3.4 Care for women without a test result

It is likely that with the current testing limitations the majority of admissions to maternity units will not, at the time of admission, have a valid test result (an RT-PCR swab taken 3-days pre-admission, in the context of household social distancing for 14 days prior to admission). Results from other tests, such as antibody tests, are not considered appropriate to guide modifications to care at present.

For women without a recent valid test result, care should follow the principles outlined in the NHS England framework for urgent care. Women should be risk-assessed on admission for their probability of COVID-19 infection:

1. Symptomatic of COVID-19 or recent household exposure (infection possible).
2. Asymptomatic of COVID-19 (infection unlikely).
3. Test confirmed COVID-19 within the last 7 days, or longer with persistent pyrexia.

The symptoms to ask about are:

- Recent fever
- Recent-onset persistent cough
- Loss or change in taste or smell
- Household contact with any of the above.

The three groups outlined above should be kept separate from one another, and symptomatic women awaiting a test result should also be kept separate from each other within the cohort (e.g. in side rooms). Visual and/or physical barriers should be used to minimise interactions between groups.

Placement of women within maternity units (i.e. use of side rooms/bays) should comply with Public Health England infection prevention and control advice on patient placement in inpatient settings.

3.4.1 Care in labour

Women who are confirmed COVID-19-positive or in whom COVID-19 infection is considered possible (e.g. symptomatic of COVID-19, or recent household exposure) should be treated as potentially or confirmed positive COVID-19 with regard to labour care. Further advice on the care of women with COVID-19 is available in the Royal College of Obstetricians and Gynaecologists (RCOG)/Royal College of Midwives (RCM) guidance on COVID-19 in pregnancy.

Women who are risk assessed as unlikely to be infected with SARS-CoV-2 who do not yet have a test result should be treated as though they do not have COVID-19 when in labour. Their care should follow a similar plan of care to that prior to the pandemic.

For all women, appropriate PPE should continue to be worn by staff. Local guidance may be used to supplement national guidance to decide what PPE should be used for women without a test result who are unlikely to be infected with SARS-CoV-2 (if they should be treated as a 'possible case'). This will take into account many factors, including current local population prevalence.

3.4.2 Discharge from hospital settings

Public Health England guidance on discharge from hospital for individuals with possible or confirmed COVID-19 should be followed as required.

There should be a process in place for chasing up and informing women and their birth partners of results that have not been returned before the woman leaves the hospital setting.

All women who test positive for COVID-19 in the context of an admission to hospital should be given a minimum of 10 days of low molecular weight heparin as venous thromboembolism (VTE) prophylaxis. A system should be in place for the maternity service to deliver this locally. Further details are available in the RCOG/RCM guidance on COVID-19 in pregnancy.[2]

3.4.3 Care for birth partners with a positive test result

Birth partners who test positive for COVID-19 should be advised not to attend the hospital and to contact

NHS 111 in England/NHS 24 in Scotland or their GP for further advice. If the birth partner shares a household with the woman, the woman will then need to be treated as potentially infected with SARS-CoV-2.

3.5 Women who decline testing for SARS-CoV-2 infection

Women who decline testing for SARS-CoV-2 infection should be cared for in the same way as women whose test result is pending. Declining testing should not prejudice the woman's care in any way.

4. Staff considerations

Regular screening and testing of healthcare professionals should follow the recommendations in the NHS England framework.

Where a woman has a recent history of exposure, develops new symptoms, or tests positive following admission after initially being treated as SARS-CoV-2-negative, trusts/health boards should follow Public Health guidance on management of staff and exposed patients in health and social care settings.

5. Conclusion

Maternity units are best placed to create testing pathways and protocols that fully reflect local conditions. The views, experiences and outcomes of women should always be used to inform the effectiveness of testing and care pathways. This can be done rapidly by involving local Maternity Voices Partnerships and/or Maternity Service Liaison Committees in the drafting of pathways and protocols.

Testing and care pathways should be flexible enough to quickly adjust according to public health guidance and best practice guidelines.

6. References

1. National Institute for Health and Care Excellence. COVID-19 rapid guideline: arranging planned care in hospitals and diagnostic services 2020 [Available from: https://www.nice.org.uk/guidance/ng179 accessed 30 July 2020.

2. Lauer SA, Grantz KH, Bi Q, et al. The Incubation Period of Coronavirus Disease 2019 (COVID-19) From Publicly Reported Confirmed Cases: Estimation and Application. Ann Intern Med 2020;172(9):577-82. doi: 10.7326/M20-0504

3. He X, Lau EHY, Wu P, et al. Temporal dynamics in viral shedding and transmissibility of COVID-19. Nat Med 2020;26(5):672-75. doi: 10.1038/s41591-020-0869-5

4. Liu Y, Yan L, Wan L, et al. Viral dynamics in mild and severe cases of COVID-19. Lancet Infect Dis2020. DOI:https://doi.org/10.1016/S1473-3099(20)30232-2

Appendix 1. Summary of scientific evidence for testing

Evidence for reliability, testing capacity and optimum timing for testing, is constantly being updated and revised as new evidence emerges. As a living document, the information presented below is correct as of Monday 10 August 2020 and will be updated accordingly.

Testing method

- Current evidence supports the detection of SARS-CoV-2 viral RNA using RT-PCR via a nasopharyngeal swab. This method should form the basis for baseline testing of admission
- It is important that trusts are aware of their own test characteristics so that they can counsel women appropriately
- Healthcare workers must be trained in the correct technique for obtaining a nasopharyngeal swab
- As rapid testing becomes widely available and has equivalent test performance to routinely available tests, early incorporation into pathways and protocols is encouraged.

Current testing uses reverse transcription polymerase chain reaction (RT-PCR) to detect viral RNA obtained via a nasopharyngeal swab. The sensitivity and specificity testing depends on the test that is used locally. To reduce false-negative results, it is suggested:

i. to combine the sampling of the nose and throat using one single swab

ii. to test as close to the onset of symptoms as is possible

iii. to reduce variability in sampling technique when obtaining a nasopharyngeal swab.

Point–of-care testing (rapid testing) is being trialled and used in some settings, and due to be expanded across England, but is not currently widely available.

Serological testing for the detection of antibodies in those previously exposed to SARS-CoV-2 has been approved for use by Public Health England (PHE). The test which detects IgM and IgG antibodies can be processed by most on-site laboratories. The test is currently quoted as having a sensitivity of 100% and specificity of 99.8%, when taken 14 days following confirmed SARS-CoV-2 infection. Further, more extensive population validation is underway. The degree and duration of immunity conferred by a positive result is currently unknown and so its place in routine pre-admission testing is currently unclear.

RT-PCR testing capacity

- Pathways must take into account local considerations for RT-PCR testing capacity and pathology turnaround times for analysis and return of sample results.

- Units should note that likely advances in technology and turnaround times will improve capacity over the course of the pandemic.

The scope for RT-PCR testing has increased following an expansion in both the availability of test kits and an increase capacity for mass processing and reporting of results within pathology laboratories. Despite this, the turnaround time is variable across the UK, where it currently ranges from 6 – 72 hours from sample receipt in the laboratory.

Whilst the testing of all hospital admissions is defined by the national frameworks,[1] it is recognised that there are local differences in readiness to implement (and therefore that this may not be immediately possible in some trusts/health boards).

RT-PCR optimum timing for testing

- Robust processes must be in place for the daily review and communication of positive results

- Testing pathways must account for the time required for processing and receipt of results from their local pathology laboratory. Pathways must allow adequate time for appropriate action to be implemented in a timely manner.

The mean incubation period for SARS-CoV-2 is 5 days.[2] Viral shedding may begin 2-3 days before the appearance of the first symptoms; the viral load starts to decrease after symptom onset.[3] Peak infectivity is

also closely correlated with peak viral load (i.e. at symptom onset).[4] RT-PCR swab tests may detect viral RNA approximately 2 days before the onset of symptoms.

These factors are vital to consider when deciding the optimal point to test for the accurate detection of women positive for SARS-CoV-2 infection, prior to admission.

A few women may incorrectly test negative for SARS-CoV-2 infection if tested too early in the incubation stage of the disease cycle. If there is clinical suspicion of SARS-CoV-2 infection, rapid or repeat RT-RNA testing at point of admission where available, may be useful. At a minimum, assessment of risk at point of admission to include recent history of symptoms suggestive of SARS-CoV-2 infection, should be conducted.

DISCLAIMER: The Royal College of Obstetricians and Gynaecologists (RCOG) has produced this guidance as an aid to good clinical practice and clinical decision-making. This guidance is based on the best evidence available at the time of writing, and the guidance will be kept under regular review as new evidence emerges. This guidance is not intended to replace clinical diagnostics, procedures or treatment plans made by a clinician or other healthcare professional and RCOG accepts no liability for the use of its guidance in a clinical setting. Please be aware that the evidence base for COVID-19 and its impact on pregnancy and related healthcare services is developing rapidly and the latest data or best practice may not yet be incorporated into the current version of this document. RCOG recommends that any departures from local clinical protocols or guidelines should be fully documented in the patient's case notes at the time the relevant decision is taken.

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