COVID Case management for Obstetric Theatres

MDT care on CDS

Clear lines of communication with the Multidisciplinary Team (obstetrician, midwife, coordinator, anaesthetist, anaesthetic practitioner, theatre team, neonatal team and theatre manager) is paramount when a woman is suspected or confirmed positive for COVID in labour.

Discuss at every handover the key roles for staff in the event of needing to transfer a "COVID woman" to theatre. There will be a need for two runners (MSW and qualified scrub ODP / nurse). Daily confirmation on the fit testing status of those on duty and designation of the theatre team should be discussed i.e. obstetrician who will perform all operating.

Daily checks of PPE stock levels in the delivery suite pandemic cupboard and in donning area. Escalate issues to Band 8 Midwife.

PPE required for care as per national guidance

Publications approval reference: 001559

NHS

PPE for care of women with known or suspected COVID-19 in labour

For use in conjunction with Public Health England's infection prevention and control guidance published here and here.

An individual risk assessment should be carried out before/at the time of providing care to determine which scenario applies and when the risk has changed. Examples of possible scenarios are given, and your local infection prevention and control team can provide additional advice if required.

	Scenario	Examples	PPE required
A	Low risk of splashing of secretions (including respiratory secretions), blood, body fluids or excretions	Routine care including in 1st stage of labour	• Fluid resistant surgical mask • Gloves • Plastic apron
B	Risk of splashing of secretions (including respiratory secretions), blood, body fluids or excretions	2nd/3rd stage of labour Vaginal delivery	• Fluid resistant surgical mask • Gloves • Long-sleeved fluid repellent disposable gown • Eye protection
C	Aerosol generating procedure (AGP)	As defined in PHE IPC guidance. Includes maternal intubation. Note the following are not aerosol generating events: • heavy exhalation in labour • use of entonox	• FFP3 respirator • Gloves • Long-sleeved fluid repellent disposable gown • Eye protection **AGP for mother:** All individuals in the room. Only essential staff in room. **AGP for neonate:** The risk that any aerosol generated during neonatal resuscitation would contain clinically significant virus is considered so low that the PPE as described in Scenario B is recommended.

General care of COVID women on delivery suite

Woman suspected/confirmed COVID to be managed in allocated rooms with appropriate doffing areas.

The green hand held maternity notes should not leave the room as these are potentially contaminated. The use of MEOWS charts, partogram and fluid balance chart should be used as normal. Contemporaneous documentation should be completed on Mosos to allow access to the notes outside of the room. Prior to transfer out of delivery suite all paperwork should be double

bagged in two clear plastic bags, dated and labelled with CR number and COVID-19 before placing into the dedicated COVID-19 notes trolley for 3 days. Medical (buff) notes can remain outside of the room.

Consider early epidural and ensure that it is working well.

In out catheterisation should be avoided where possible. If catheterisation is required use an indwelling catheter where appropriate. This is to avoid repeated interventions.

Please ensure no unnecessary equipment is passed into the labour room i.e. In an emergency situation do not send the whole emergency trolley into the isolation labour room. A runner will pass in any required equipment from the trolley which can be located just outside.

In emergency situation:

When declaring an emergency phone 2222 obstetric emergency call and state "COVID" prior to nature of emergency eg. "COVID category 1 delivery"

If the emergency buzzer is pulled, all staff should don appropriate PPE prior to entering the room.

The MDT need to be mindful that there will be an inevitable time delay for emergency caesarean delivery with a COVID patient. Intrauterine resuscitation will be key.

Theatre cases

The consultant obstetrician, anaesthetist, anaesthetic practitioner, theatre team and neonatal team must be informed about any woman with suspected COVID admitted to the unit.

The decision to take a woman to theatre needs to be clearly communicated to all staff. All staff should be ready to take a woman who is suspected of or has a diagnosis of COVID to theatre once she is in labour.

Anaesthesia and its risks

We need to AVOID GENERAL ANAESTHESIA wherever possible:

- It is a VERY HIGH RISK PROCEDURE for all in theatre and requires full AGP FFP3 PPE for everyone.
- Intrauterine resuscitation including the use of terbutaline may decrease the chance of needing a GA caesarean section

1/3 of COVID patients have a low platelet count. FBC should be checked on admission to delivery suite. OAA advises that it would be prudent to check the platelet count prior to neuraxial blockade. Consider repeating the FBC every 6 hours.

Top up epidural:

Anaesthetist 1 enters patient's labour room in full AGP PPE (Level C) to provide initial epidural top-up in the room. Anaesthetist 1 then assists in transfer of the patient to theatre without doffing. Anaesthetist 2 will receive the patient in theatre.

Theatre

COVID cases will be operated on in Theatre 2.

Only essential kit will be in theatre.

Theatre team (Scrub staff, Anaesthetic Practitioner, Anaesthetist) are to ensure that the theatre is ready at all times to take an emergency COVID case.

- Phenylephrine syringe loaded and emergency drug grab bags prepped ready in fridge.
- Check regional and GA trolleys are available in the clean area and ensure all drugs required are on the trolley.

Team working and communication

Undertake a team brief. Write role/name on stickers to go on top of visor. Remind staff that during intubation, everyone except anaesthetist and anaesthetic practitioner, are to stand as far away as possible.

Additional staff members may be required to facilitate care in the theatre.

One MSW and one ODP/staff nurse to be available outside theatre to get any additional equipment.

Communication is hindered by PPE, use closed loop communication and be specific about requests. Talk loudly. No unnecessary conversations in theatre.

Suggested PPE for caesarean sections:

Category 1: Level C

Category 2: Level C

Category 3: Level B or C depending on the situation

Category 4: Level B if satisfactory neuraxial block, otherwise Level C

All procedures requiring a general anaesthetic need Level C PPE.

PPE donning and doffing

Donning PPE takes time and will delay delivery.

Donning monitor/buddy in doffing area to ensure kit correctly fitted – use poster displayed for guidance.

The first layer of gloves are equivalent to your “skin” and should only be removed when doffing.

A second pair of gloves should be worn for any procedure that you would normally wear gloves for and changed appropriately.

3 layers of gloves for anaesthetists if AGP expected – remove each time in contact with secretions.

Doffing to be done as per poster in doffing area – use the hand gel on wall.

Doffing monitor/buddy in doffing area to ensure kit correctly removed – use poster displayed for guidance.

Transfer to theatre

The woman will be transferred to theatre on a black trolley which is found in Theatre 2. The woman will be transferred by staff in appropriate PPE (MW2 ‘buddy’ and MSW) and enter via the doffing area in to theatre 2. Arrange for visitors in other rooms to remain inside during this process and to ensure that walls and doors are not touched with hands.

Team with appropriate PPE in theatre to accept the patient. Re-attach CTG monitoring.

The trolley entrance in the doffing area should be zipped closed once the patient is in theatre and should not be opened again until the patient leaves theatre.

Pass in only essential paperwork to theatre. Some paperwork can be completed retrospectively. Patient’s green notes to remain in labour room.

Please refer to Covid Emergency Procedure Theatre Flowchart (Appendix 1).

Care in COVID theatre 2

All caesarean sections will be performed on the black trolley. A left lateral tilt can be set using the handle on the right hand side of the black trolley. The handle should be pulled out and turned to allow the appropriate tilt.

One black trolley will remain in Theatre 2 and a second trolley is located in the corridor.

The urinary catheter should be placed by the midwife (MW1 ‘carer’) in the labour room prior to transfer.

Use the laminated WHO checklist on the wall.

Equipment and drugs brought into theatre should be done using trays to avoid contact. Any extra equipment that is required will be passed onto a tray held by the scrub nurse/Anaesthetic Practitioner/MSW in the clean area of the ‘tent’ to the ante-room (doffing area) to be retrieved by the theatre team.

Histology specimens should be double bagged and labelled high risk (category B biohazard) with COVID-19 clearly written on the form.

Single use and disposable kit should be used where possible

Cell salvage will be available in each theatre.

If general anaesthesia is required

Intubation:

Use the RCHT standard approach to intubation. Be clear about who is doing what before starting; the most capable person must attempt to intubate first. Have your help in the room (i.e. you are not going to have time to call someone for help from elsewhere and have them don the appropriate PPE).

Pre-oxygenate with 5L/min only. Ensure mask is tight fitting using the VE grip.

Do not bag the patient during the apnoeic period.

Use a video laryngoscope to intubate at arm's length. Use a standard endotracheal tube size 7.0 or less.

Do not auscultate the chest – assess ETT location using $ETCO_2$ and looking for equal chest wall movement.

Extubation:

See RCHT extubation guidelines.

Avoid/minimise flicking secretions from the ETT as it is being withdrawn.

In the event of a Post-Partum haemorrhage (PPH) request the uterotonic drugs grab bag and guideline - paper copy.

Neonatal team

The neonatal team will be notified early during the admission when there is a suspected or confirmed COVID case who may deliver.

The neonatal team will not routinely attend elective sections.

In the event of an emergency caesarean section, the neonatal team will send a senior appropriate resuscitator. This staff member will stay outside of theatre in the 'tent'. They will be wearing full PPE for aerosol generated procedures (AGP) but don FFP3 mask only if entering the theatre/room. They will only enter theatre if required due to concern regarding the condition of the infant as assessed by the attending midwife.

Further team members will be available outside. Limited staff exposure is a key principle.

A grab bag of basic equipment will be brought into theatre by the 1st team member and the resus trolley will only be brought in if required.

A designated resuscitaire for COVID deliveries is recommended.

Following stabilisation, the infant will only be admitted to the neonatal unit if required under normal admission criteria. They will otherwise be managed on the birthing suite with mother. It is likely that simple procedures such as cannulation for infection screening if required will be undertaken on the delivery suite.

Infants requiring admission to the neonatal unit will be transferred in the transport incubator and isolated in a side room.

The mother will not be allowed on the neonatal unit until confirmed as COVID negative and this testing will clearly need prioritisation within the trust testing processes.

See Neonatal flow charts – Appendix 2 & 3.

Documentation

This will be difficult in PPE and may need to be done in retrospect. Documentation should be clear.

The obstetric anaesthetic phone will reside in theatre 2 and can be used to take a photo of paperwork which can then be emailed and remotely printed out.

A selection of paperwork will be available outside theatre to be passed in if required.

Post-operative care

At the end of the case, the surgeons must ensure that they have confirmed that there are no patient concerns before they leave to doff their PPE.

The patient will be fully recovered in theatre after a general anaesthetic. If the patient has had a neuraxial block (spinal or epidural) and they are stable, then the patient can be transferred back to their labour room. They will be transferred onto a clean black transfer trolley prior to leaving theatre (located in corridor). Telephone this area before departing theatre and arrange for corridors to be cleared.

Controlled drugs should be balanced before the patient leaves theatre.

After the case is finished, all staff should remove PPE as per doffing instructions.

Allow theatre to stand for 20 minutes after the patient has left. Apply PPE (surgical mask, eye protection, gown, gloves and apron) to clear theatre waste. Yellow bags into disposal room.

All waste into double yellow bags, these should stay in theatre until the patient has left. The outer bag should then be wiped down with detergent and actichlor and COVID-19 clearly written on the

outside. Contact Mitie to collect the waste bags after each case. CSSD sets should be double bagged in the clear bags and labelled. CSSD should be rung for immediate pickup.

Theatre should be cleaned with detergent wipes followed by actichlor in a convergent pattern to the exit doors.

Staff are required to shower, change scrubs and clogs after the case. Clogs should be placed in a separate box for immediate washing.

Contaminated scrubs also require separate collection.

A team debrief after the case should be completed.

MDT Handover

- Allocate roles for suspected/confirmed COVID+ patient (use wipe clean list)
- ODP to check theatre 2 airway kit , regional anaesthesia trolley with kit and fluids with drip stand/pumps
- Anaesthetist to prepare drugs required (see drugs checklist and others as personal preference) into grab bags at start of shift
- Ensure telephone is available in Theatre 2 (mobile phone)

In the room

- After decision for theatre:
  - Coordinator calls 'COVID Category 1 team'
  - Intrauterine resuscitation
  - 2 team members to don barrier PPE and move transfer trolley down to outside room
  - Transfer patient onto transfer trolley with pillow
  - If for epidural anaesthesia, anaesthetist 1 will attend room in full PPE including FFP3 mask to administer initial top up
  - Patient should wear surgical mask prior to leaving room
  - Ensure neonatal team requested
  - Insert in dwelling urinary catheter whilst theatre team are preparing theatre

Transfer

- Designated resuscitaire to be put in , checked and covered in sterile drape in theatre 2 prior to transfer
- Coordinator lock downs corridor (all room doors to remain closed, close all entrances, clear corridor and desk area)
- Theatre team to pre-brief and don full AGP FFP3 PPE. Put names fson visor
- Coordinator confirms to transfer patient once theatre team have donned full PPE
- Midwife doffs and closes door once patient leaves room (re-don full PPE at theatre)
- ODP meet patient at Theatre 2 DOFF tent and zip up doffing area once patient in theatre
- Allocated 2 runners to remain in clean area with barrier PPE outside Theatre 2 to retrieve and pass equipment

Theatre

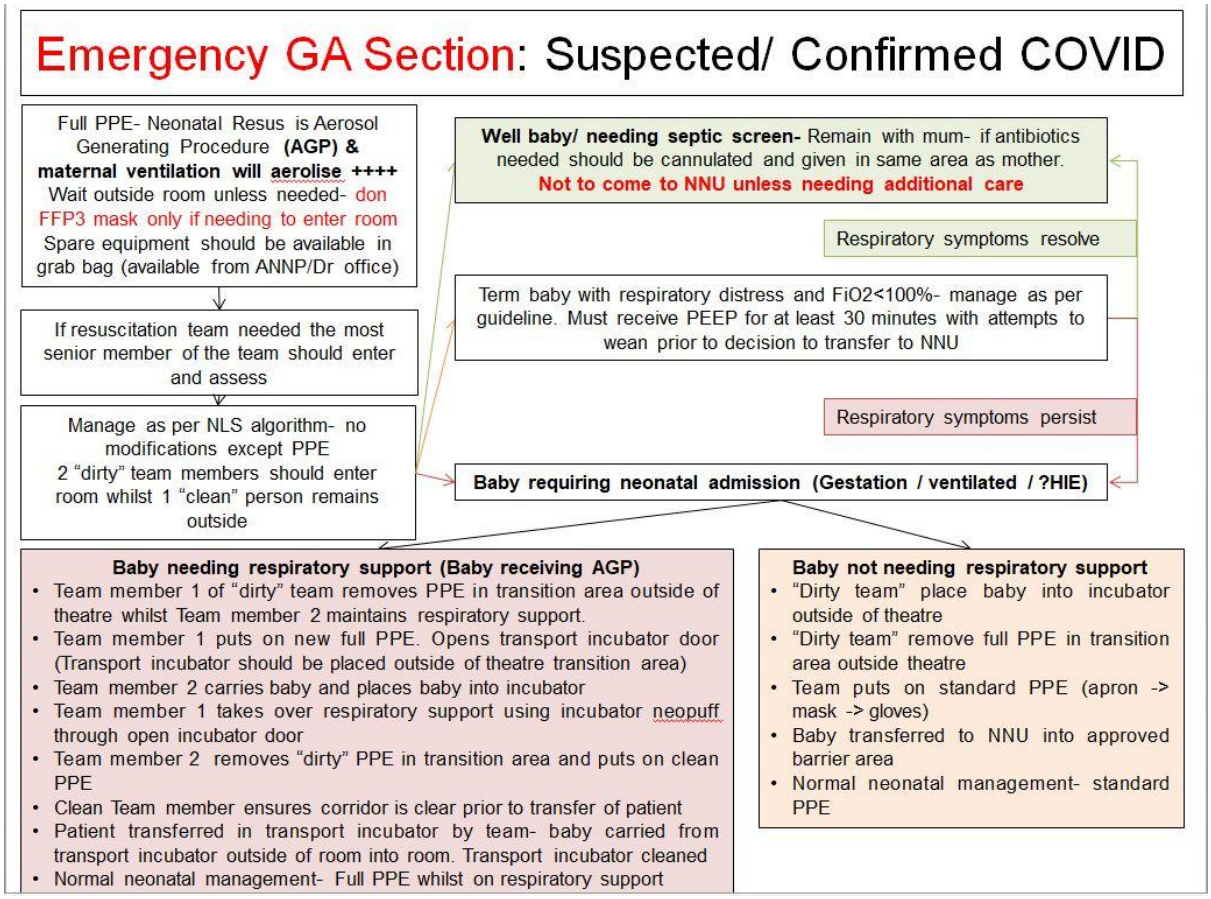
- Reattach CTG as required
- Verbally complete Cat 1 WHO checklist on wall
- Prepare abdomen, fold drape down
- All teams members, except anaesthetic team, to remain in scrub or doffing area until after intubation
- Additional equipment or drugs to be handed from the Clean Zone by a runner into the Dirty Zone to a PPE'd member of the surgical team through the zipped divider

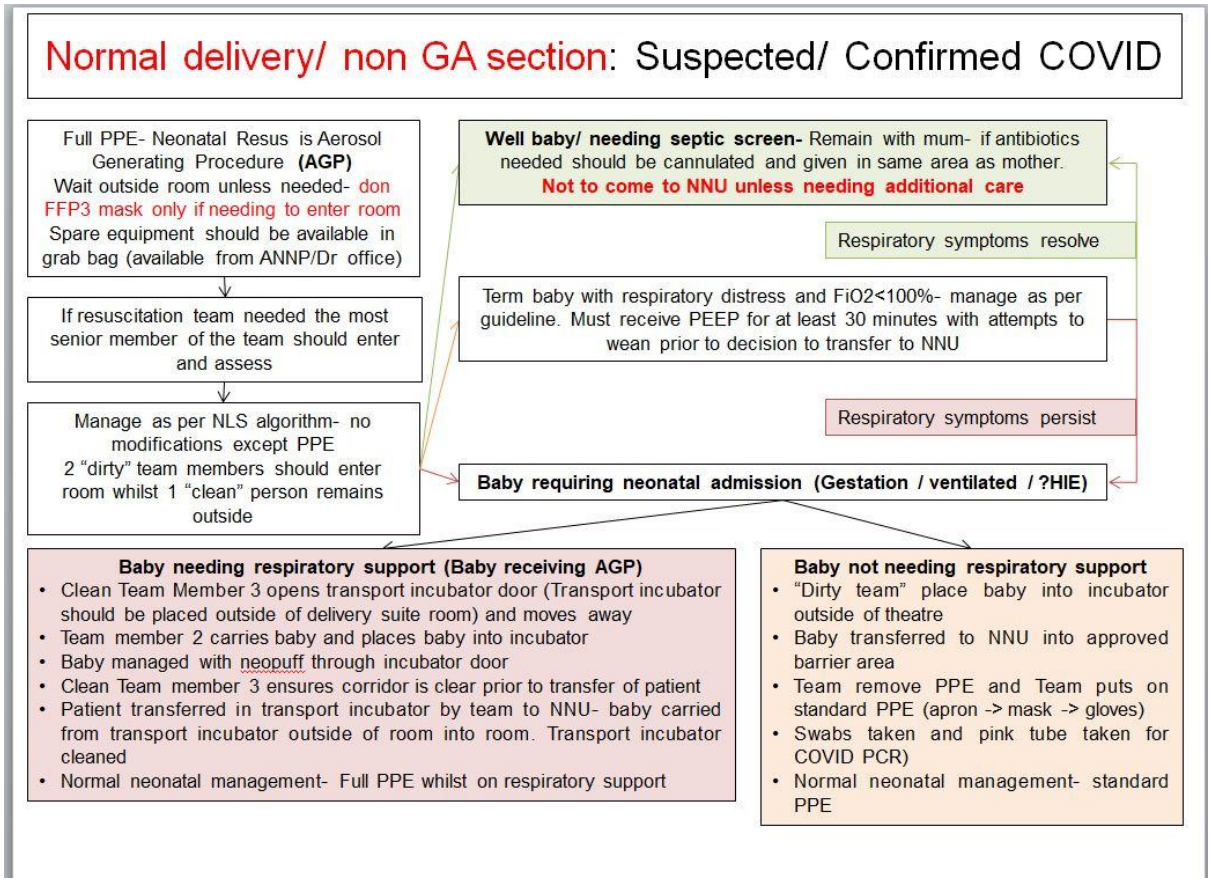
End of procedure care

- Complete WHO signout
- ODP, anaesthetist and midwife to remain in room until patient leaves Theatre 2
- Rest of team to doff in doffing area
- 2 runners (eg MSW and ODP) should remain outside door until patient leaves theatre
- 'Clean team' to receive patient in barrier PPE

Post-procedure care

- Clean theatre with detergent wipes followed by acticlor at least 20 minutes after extubation
- All waste into double yellow bags: wipe outer bag with achtichlor and COVID-19 clearly written on the outside
- All team members shower and change scrubs after procedure
- Team debrief with 2 metre precaution


Emergency GA Section: Suspected/ Confirmed COVID
Full PPE- Neonatal Resus is Aerosol Generating Procedure (AGP) & maternal ventilation will aerolise ++++
Wait outside room unless needed- don FFP3 mask only if needing to enter room
Spare equipment should be available in grab bag (available from ANNP/Dr office)
If resuscitation team needed the most senior member of the team should enter and assess
Manage as per NLS algorithm- no modifications except PPE
2 "dirty" team members should enter room whilst 1 "clean" person remains outside
Well baby/ needing septic screen- Remain with mum- if antibiotics needed should be cannulated and given in same area as mother.
Not to come to NNU unless needing additional care
Respiratory symptoms resolve
Term baby with respiratory distress and FiO2<100%- manage as per guideline. Must receive PEEP for at least 30 minutes with attempts to wean prior to decision to transfer to NNU
Respiratory symptoms persist
Baby requiring neonatal admission (Gestation / ventilated / ?HIE)
Baby needing respiratory support (Baby receiving AGP)
• Team member 1 of "dirty" team removes PPE in transition area outside of theatre whilst Team member 2 maintains respiratory support.
• Team member 1 puts on new full PPE. Opens transport incubator door (Transport incubator should be placed outside of theatre transition area)
• Team member 2 carries baby and places baby into incubator
• Team member 1 takes over respiratory support using incubator neopuff through open incubator door
• Team member 2 removes "dirty" PPE in transition area and puts on clean PPE
• Clean Team member ensures corridor is clear prior to transfer of patient
• Patient transferred in transport incubator by team- baby carried from transport incubator outside of room into room. Transport incubator cleaned
• Normal neonatal management- Full PPE whilst on respiratory support
Baby not needing respiratory support
• "Dirty team" place baby into incubator outside of theatre
• "Dirty team" remove full PPE in transition area outside theatre
• Team puts on standard PPE (apron -> mask -> gloves)
• Baby transferred to NNU into approved barrier area
• Normal neonatal management- standard PPE


Normal delivery/ non GA section: Suspected/ Confirmed COVID
Full PPE- Neonatal Resus is Aerosol Generating Procedure (AGP)
Wait outside room unless needed- don FFP3 mask only if needing to enter room
Spare equipment should be available in grab bag (available from ANNP/Dr office)
If resuscitation team needed the most senior member of the team should enter and assess
Manage as per NLS algorithm- no modifications except PPE
2 "dirty" team members should enter room whilst 1 "clean" person remains outside
Well baby/ needing septic screen- Remain with mum- if antibiotics needed should be cannulated and given in same area as mother.
Not to come to NNU unless needing additional care
Respiratory symptoms resolve
Term baby with respiratory distress and FiO2<100%- manage as per guideline. Must receive PEEP for at least 30 minutes with attempts to wean prior to decision to transfer to NNU
Respiratory symptoms persist
Baby requiring neonatal admission (Gestation / ventilated / ?HIE)
Baby needing respiratory support (Baby receiving AGP)
• Clean Team Member 3 opens transport incubator door (Transport incubator should be placed outside of delivery suite room) and moves away
• Team member 2 carries baby and places baby into incubator
• Baby managed with neopuff through incubator door
• Clean Team member 3 ensures corridor is clear prior to transfer of patient
• Patient transferred in transport incubator by team to NNU- baby carried from transport incubator outside of room into room. Transport incubator cleaned
• Normal neonatal management- Full PPE whilst on respiratory support
Baby not needing respiratory support
• "Dirty team" place baby into incubator outside of theatre
• Baby transferred to NNU into approved barrier area
• Team remove PPE and Team puts on standard PPE (apron -> mask -> gloves)
• Swabs taken and pink tube taken for COVID PCR)
• Normal neonatal management- standard PPE