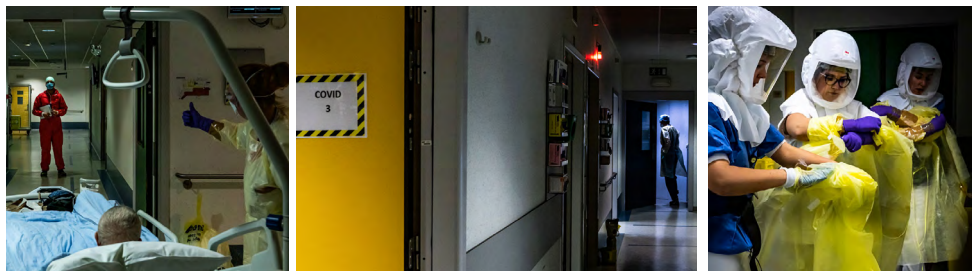


European Resuscitation Council COVID-19 Guidelines



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European Resuscitation Council COVID-19 Guidelines

Section 5

Newborn Life Support

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► *This guideline was provided on 24 April 2020 and will be subject to evolving knowledge and experience of COVID-19. As countries are at different stages of the pandemic, there may be some international variation in practice.*

— Introduction

Case series suggest the risk of vertical transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) at birth is unlikely and that there is a low risk of babies being infected at birth even if born to a confirmed coronavirus disease 2019 (COVID-19) positive mother.^{1,2}

Maternal infection with COVID-19 may increase the risk of premature labour and there appears to be a tendency for more deliveries to be via caesarean section with foetal compromise cited as an indication³. Concerns about maternal health may also prompt a decision to deliver^{4,5}. The necessary obstetric precautions against viral exposure may increase the time taken to deliver compromised babies by caesarean section. However, babies do not appear significantly more compromised at birth in the presence of maternal COVID-19³

The indications for the attendance of a neonatal team in advance, and the clinical factors which might prompt resuscitation remain unchanged whatever the maternal COVID-19 status.

The sequence of assessment and any subsequent resuscitation/stabilisation remain unchanged and follow standard Newborn Life Support (NLS) principles.⁶

Changes to the standard approach should be made to reduce the risk of COVID-19 cross infection for staff and the baby.

Departments should have clear local guidelines on the prevention of COVID-19 transmission and sufficient quantities of suitable personal protective equipment (PPE) must be available in all birthing areas. Staff must be familiar with the guidelines and trained in the appropriate use of PPE.

- Local recommendations may take the regional prevalence of COVID-19 into account.
- Where maternal COVID-19 is not clinically suspected, staff should follow local or national guidelines for PPE, which may include the routine use of droplet-precaution PPE (fluid-resistant surgical mask/visor/short-sleeved gown and gloves) for any attendance.
- Where maternal COVID-19 is suspected/confirmed, staff must attend in full airborne-precaution PPE (FFP3 mask or FFP2 if FFP3 not available/visor/long-sleeved apron and gloves).

As further information becomes available the current ERC recommendations may change.

— Delivery area

Significant numbers of asymptomatic mothers may be infected with COVID-19 at birth⁷. Whilst it is recommended that a designated area be identified for the delivery of mothers with symptoms suggestive of infection or confirmed COVID-19 positive status, it may not be feasible to segregate all such mothers. Therefore, take appropriate precautions and wear PPE when attending all deliveries.

Ideally, delivery of a baby from a COVID-19 suspected/positive mother should take place in a negative-pressure room, but these facilities may not be available in all delivery or operating rooms. As a minimum precaution, resuscitation of the baby should ideally take place at least 2m from the mother in order to minimise the risk of droplet spread (the risk from airborne spread still exists).⁸ Provision of a mask for the mother may reduce droplet spread, and consideration might be given to having a partition or the resuscitation area in an adjacent room separate from the delivery area if this is possible⁵.

Operating rooms are considered to be an area with a higher risk of droplet or airborne spread because of the nature of the procedures carried out on mother (airway management, diathermy etc.).

— Pre-delivery discussions with suspected or confirmed COVID-19 positive parents

Depending on hospital policy the mother may be unescorted. Opportunities for pre-delivery discussion of management may be limited. Droplet precaution PPE is required for face-to-face consultation. Video consultation may be an alternative to reduce contact. If the neonatal team is unable to counsel the family then the obstetric/midwifery team may need to undertake such discussions.

— Neonatal team attending in advance (for suspected or COVID-19 positive mother)

Check and prepare the resuscitation area before the mother is in the room. Where a neonatal team is called in advance, careful planning is required to minimise the number who enter the room. The team should include someone experienced in newborn resuscitation and interventional procedures. Additional team members may be required to help with PPE. Facilities for safely putting on and taking off PPE need to be in place. Handling PPE may incur delays, especially should urgent extra assistance be required, and this should be considered in the preparation of the team. If the resuscitation area is in the same room as the mother, and it is unclear that intervention will be required, then the neonatal team may choose to wait outside and only enter if needed. Full airborne-precaution PPE will be required for anyone entering the room. Team members should put on PPE in advance although if waiting outside they may choose to leave off their masks/visors until it is clear they are required to attend the baby.

— Delivery

There are no changes to the immediate management of the newborn following delivery in the presence of suspected/confirmed COVID-19 infection. Delayed cord clamping should still be considered. Initial assessment of the baby may take place on the perineum provided extra care is taken.^{5,9,10}

The baby should only be passed to the neonatal team if intervention is needed, babies doing well stay with mother and the neonatal team may be able to avoid exposure.

— Neonatal team called after delivery (of a suspected or confirmed COVID-19 positive mother)

Staff attending any delivery need to be able to successfully initiate the resuscitation of a compromised baby before the neonatal team arrives. Help should be called for early, as the need for the neonatal team to put on full airborne-precaution PPE may cause a delay in being able to attend the baby.

— Approach to resuscitation/stabilisation

The approach to resuscitation/stabilisation follows standard NLS recommendations⁶.

Take measures to minimise potential COVID-19 exposure. A wet towel must be considered contaminated and removed with care. A high-efficiency particulate air (HEPA) filter might be considered between T-piece/self-inflating bag and mask,¹¹ although evidence of infection of the respiratory tract at birth and subsequent viral spread from aerosols generated through devices or procedures has not yet been described. Two-person airway support reduces mask leakage and is preferred where sufficient staff with appropriate PPE are available. Minimise potential aerosol generating procedures (AGPs) such as suction and ensure that the most experienced team member carries out any advanced airway manoeuvres.⁵

— Post resuscitation care

Decisions to separate a COVID-19 positive mother and her baby should follow local guidance. Generally, a baby should stay with their mother if she is well enough. If observations are required, they may be carried out by midwifery staff. Skin-to-skin care and breast feeding may be possible if adequate precautions are taken including strict hand hygiene and a fluid resistant surgical mask for the mother to reduce the risk of droplet spread.^{12,13}

Should the baby require admission we recommend that transfer takes place in a closed incubator. Minimise exposure of the incubator to the contaminated area; it may be kept out of the delivery area/operating room if the resuscitation area is in the same room and the baby carried to it. Staff escorting the baby to the neonatal unit should consider wearing full airborne precaution PPE where they might need to intervene during the transfer although AGPs should be avoided outside controlled areas such as the neonatal unit if at all possible. If the team moving the baby is the same as that attending the delivery, consider changing PPE before moving because that used in the delivery area will be contaminated

Following resuscitation, isolate the baby until its COVID-19 status is known.

A team debrief is suggested to support staff and help improve future performance.

— Postnatal deterioration and resuscitation

Where the cause of a deterioration or collapse is unknown, consider the possibility of infection with COVID-19. A high local incidence of disease or confirmed COVID-19 infection in the mother should prompt a higher index of suspicion.

Any resuscitation should take place in a designated area to minimise the risk of cross-infection. Assessment and resuscitation follow standard NLS principles regardless of circumstances.

Those undertaking initial assessment and support should as a minimum use droplet-precaution PPE. Any staff attending subsequently should wear full airborne-precaution PPE as it may be necessary to undertake AGPs. If intubation is necessary, consider videolaryngoscopy.

— Level of PPE for postnatal collapse and the provision of respiratory support

Ideally respiratory support should not be delayed. Mask ventilation and cardiac compressions are considered AGPs in all age groups outside the immediate newborn period^{14,15}. There is as yet no published evidence that resuscitative measures during postnatal collapse are associated with increased risk of infection. Nevertheless, due to the heightened concerns of cross infection, full airborne-precaution PPE should be used whenever possible if attending a postnatally collapsed baby in these circumstances. Decisions on providing breathing support in the absence of full airborne-precaution PPE need to be made with the understanding that there may be a small but as yet undefined risk of COVID-19 exposure.

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