

# APLS Australia Statement on Paediatric Resuscitation during the COVID-19 Pandemic

Updated: 14th April 2020

## Background

APLS Australia recognises that the COVID-19 pandemic has caused a high level of concern in our health care providers and the wider community, with ongoing uncertainty and variation in practice around the world concerning the optimal clinical approach to resuscitative manoeuvres in known or suspected COVID-19 patients.

While aware of health care provider concerns regarding risk of potential transmission of coronavirus during resuscitative procedures, we are committed to the vital importance of providing CPR for children in cardiorespiratory arrest.

Although cardiorespiratory arrest is rare in children, early institution of CPR and early defibrillation (if indicated) provides these children with their only chance of survival. Each minute that passes without appropriate resuscitative measures, significantly lowers the chance of neurologically intact survival. Paediatric cardiac arrest is commonly precipitated by hypoxemia and effective ventilation is a priority. Rescue breaths should be commenced as soon as possible, consistent with safe practices in the context of the possible COVID-19 status of the child.

In the current setting of the rapidly evolving COVID-19 pandemic, risk to rescuers is increased (chest compressions and positive pressure ventilation have the potential to generate aerosols) but the underlying principles for CPR remain unchanged.<sup>1</sup>

Application of appropriate personal protective equipment (PPE) may delay initiation of resuscitation, so efforts to anticipate risk of deterioration and plan in advance should help to minimise these delays.<sup>2</sup>

In making the following recommendations, we have attempted to balance the benefit of early and appropriate resuscitative treatment with the potential harm to the rescuer, their colleagues and the wider community.

Our recommendations are consistent with those made by our peak resuscitation bodies – ANZCOR<sup>1</sup> and ILCOR.<sup>2</sup>

## Basic Life Support for Children in Out-of-Hospital settings

Most out-of-hospital cardiac arrests in children occur in the home where those providing resuscitation are likely to have been in contact with the child and are familiar with their health care background and risks.

Accessibility to PPE for aerosol-generating procedures (AGPs) is likely to be limited and significant harm from delaying potentially lifesaving treatment is likely to result if resuscitation is deferred until arrival of personnel with suitable PPE.<sup>2</sup>

In our current environment, the risk to either the rescuer or the child of acquiring COVID-19 through provision of rescue breaths is small compared to the risk of taking no action which will certainly result in death of the child<sup>3</sup>.

### *Treatment recommendations*

- In contrast to the advice in adults in the out-of-hospital setting, we recommend that in the current COVID-19 pandemic, health care professionals and lay rescuers who are willing, trained and able to do so, should continue to deliver rescue breaths to children in addition to chest compressions.
- If rescuers are untrained or unwilling to perform rescue breaths, chest compression only CPR is preferable to no CPR.

## Advanced Life Support for Children in Hospital settings

The majority of in-hospital cardiac arrests in children occur in settings where those providing resuscitation are likely to be familiar with the child's health care background and risks.

Healthcare professionals should have greater access to appropriate PPE and should be trained in its use. As cardiorespiratory arrest in children is more likely to occur after a period of observable clinical deterioration rather than as an unpredictable sudden event, attending health care workers may be able to don an appropriate level of PPE in anticipation of potential further deterioration, thus minimising delays to commencing or continuing resuscitation.

### ***Treatment recommendations***

- We suggest that in the current COVID-19 pandemic, healthcare professionals should use personal protective equipment (PPE) for aerosol-generating procedures during resuscitation in children with confirmed or suspected COVID 19 infection. The number of people in the room should be minimised consistent with appropriate care.
- Risk associated with aerosol-generating procedures (AGPs) should (where practical) be minimised by:<sup>4</sup>
  - Addition of viral filters on all airway devices (BVM, SGA, ETT) where available
  - Preferentially allocating the most experienced clinician to manage airway
  - Recognising that a cuffed endotracheal tube (ETT) is preferable to a supraglottic airway (LMA or I-Gel) which is preferable to bag-valve-mask (BVM) ventilation (optimally using a two-person technique, with an oropharyngeal airway, to minimise leak) to minimise aerosol production
- We encourage practitioners to become familiar with and adhere to local guidelines which describe the personal protective equipment that should be worn for aerosol-generating procedures.
- We encourage healthcare professionals to anticipate potential clinical deterioration in high risk patients and don appropriate PPE in preparation for resuscitation.

### **Advanced Life Support for Children by Pre-Hospital Professionals and Rapid Response Team (RRT) or Medical Emergency Teams (MET)**

Emergency Responders in the pre-hospital or hospital settings are likely to have been alerted to the critical status of the child at the time of their activation.

Healthcare professionals in these settings should have immediate access to appropriate PPE and should be trained in its use. Attending Pre-Hospital Professionals and Rapid Response Team (RRT) or Medical Emergency Team (MET) members should have an opportunity to don appropriate PPE prior to arrival at the scene, thus minimising delays to commencing or taking over resuscitation from first responders.

### ***Treatment recommendations***

- We suggest that in the current COVID-19 pandemic, Pre-Hospital Professionals and RRT or MET members should use personal protective equipment (PPE) for aerosol-generating procedures during resuscitation in children with confirmed or suspected COVID 19 infection.
- We encourage practitioners to become familiar with and adhere to local guidelines which describe the personal protective equipment that should be worn for aerosol generating procedures.
- We recommend that Pre-Hospital Professionals and RRT or MET members don appropriate PPE prior to arrival at the scene in anticipation of the need to perform aerosol generating procedures during resuscitation.
- We also encourage Pre-Hospital Professionals and RRT or MET members to communicate early with the teams to which they are transferring the patients to allow them to prepare and use appropriate PPE.

To facilitate implementation of these recommendations, APLS Australia recognises that healthcare systems will need to consider: availability and distribution of appropriate PPE; education of the workforce in appropriate PPE donning and disposal techniques; and appropriate resources and personnel to provide on-going care for children resuscitated after cardiac arrest.

We encourage organisations and individuals to simulate and rehearse the resuscitation of children in your local environments.

As an organisation, we also fully support good hand hygiene and other preventive measures as per guidance from our Public Health system.

APLS Australia will continue to update this statement as and when more information becomes available.

1. Australian and New Zealand Committee on Resuscitation. Resuscitation during the COVID-19 pandemic. 2020 3 April. Available from: <http://resus.org.au>
2. Couper K, Taylor-Phillips S, Grove A, et al on behalf of the International Liaison Committee on Resuscitation. COVID-19 infection risk to rescuers from patients in cardiac arrest. Consensus on Science with Treatment Recommendations [Internet] Brussels, Belgium: International Liaison Committee on Resuscitation (ILCOR), 2020 March 30. Available from: <http://ilcor.org>
3. Resuscitation Council UK. Resuscitation Council UK Statement on COVID-19 in relation to CPR and resuscitation in first aid and community settings. Available from: <https://www.resus.org.uk/media/statements/resuscitation-council-uk-statements-on-covid-19-coronavirus-cpr-and-resuscitation/covid-community/>
4. Brewster DJ, Chrimes NC, Do TBT et al. Consensus statement: Safe Airway Society principles of airway management and tracheal intubation specific to the COVID-19 adult patient group. 2020 16 March. Available from: <https://www.mja.com.au/journal/2020/consensus-statement-safe-airway-society-principles-airway-management-and-tracheal>