

CLINICAL UPDATE

24th August 2021

Resuscitation Council (UK) Guidelines 2021: Key Changes

JRCALC will be updating guidelines shortly following the RCUK Resuscitation 2021 Guidelines update. JRCALC have approved the updates and will be publishing the amended guidance in September including on the JRCALC App as well.



**Resuscitation
Council UK**

Please continue to follow current JRCALC guidelines taking note of the below imminent changes to practice that should be considered as part of developing clinical practice. During the changeover phase, both treatment protocols will be supported until such time as the JRCALC guidance is published and the new protocol will be adopted.

Any question please contact clinical.leads@eastamb.nhs.uk

Credit: Angela Croucher, NQP from Central Cambs for her significant contribution in compiling the updated guidance.

Adults

- There's increased emphasis on the use of point of care **ultrasound** for patients who are critically unwell or peri-arrest for assisting in diagnosis-
contact CCD early for critically unwell patients.
- During an arrest, **keep time off the chest to < 5 seconds.**
- In a non-shockable rhythm, give adrenaline as early as possible.

Children

There are some important revisions to the definitions of children that will determine the algorithm being followed:

- A newborn is an infant just after birth i.e. within the last few minutes of delivery.
- An infant is under the age of 1 year.

- A child is between 1 year and 18 years of age.
The differences between adult and paediatric resuscitation are largely based on differing aetiology. If the rescuer believes the victim to be a child then they should use the paediatric guidelines. If a misjudgement is made, and the victim turns out to be a young adult, little harm will accrue as studies of aetiology have shown that the paediatric causes of arrest continue into early adulthood.

Newborn = period immediately after birth

- A rapid initial assessment of tone, colour, adequacy of breathing & heart rate should usually occur before the umbilical cord is clamped & cut.
- If immediate resuscitation isn't required, aim to delay clamping the cord for at least 60 seconds. A longer period may be more beneficial.
- If adequate temperature control & initial resuscitation interventions can be safely undertaken with the cord intact, it may be possible to delay clamping whilst performing these interventions.
- If support is required, ensuring an open airway & ventilating the lungs is usually all that is necessary.
- If the heart rate remains very slow (<60/min), confirm effective ventilation through observed chest movement before progressing to chest compressions. Without adequate lung aeration, compressions will be ineffective.
- If compressions are required, attach the BVM to 15l O₂ and continue with 3:1 ratio.
- It's extremely unlikely that drugs will be required, but if they are the IV/IO Adrenaline dose is now 20mcg/kg = 0.2mls/kg of 1:10,000 adrenaline.

Paediatrics – infants and children

- When treating patients with respiratory failure, titrate supplemental O₂ to keep SpO₂ 94-98% unless they have a chronic condition in which case aim for SpO₂ 3% below known baseline.
- Fluid volume for shock is now 10mls/kg (rather than 20mls/kg) to a maximum of 40-60mls/kg in the first hour with regular reassessment & checking for signs of overload i.e., hepatomegaly, bi-basal lung crackles & jugular venous distention.

- In haemorrhagic shock give a maximum of 20mls/kg of 0.9% saline. Ideally want to use blood products which some critical care teams carry.
- The paediatric guidelines now apply to all children under 18, except for new-borns.
- In the initial assessment, check for breathing & circulation simultaneously & whilst delivering rescue breaths. If there are no signs of life after 5 rescue breaths, then go straight into chest compressions with 15:2 ratio.
- If an ET tube is in situ, then use continuous compressions with the ventilation rates below:
 - Infants: 25bpm
 - 1-8yrs: 20bpm
 - 8-12yrs: 15bpm
 - >12yrs: 10-12bpm
- Continuous compressions can be used if an i-gel / LMA is in situ as long as the ventilations are effective as determined by utilising ETCO₂ capnometry and capnography as a marker for ventilation performance.
- Keep time off the chest to < 5 seconds when defibrillating

Anaphylaxis

JRCALC will be publishing guidance on anaphylaxis as a separate update but below is a summary of the expected and supported changes.

The new guidance emphasises the use of IM adrenaline as the primary emergency treatment for life-threatening anaphylaxis.

- **The guidelines have changed for paediatrics and adults.**
- There's a new IM adrenaline dose **for <6 months: 100-150mcg = 0.1-0.15mls 1:1000.**
- Prolonged anaphylactic reactions will cause increased vascular permeability, causing large volumes of fluid to leak from the patient's circulation. If hypotension or shock is present give, 500-1000mls 0.9% saline fluid challenges in adults or 10mls/kg in paediatrics but expect that large volumes may be required if shock symptoms persist.
- **Avoid sudden changes in posture** – maintain a supine or semi-recumbent position if that makes breathing easier.

- Antihistamines are a 3rd line intervention and not part of the initial emergency treatment. IV Chlorphenamine will not be part of pre-hospital emergency treatment.
- For mild to moderate reactions, oral anti-histamines will be recommended.
- Corticosteroids eg hydrocortisone is no longer advised for the routine emergency treatment of anaphylaxis.
- Both Hydrocortisone and Chlorphenamine will have indications of use in treatment of anaphylaxis removed for all scopes of practice.

All the Resus council algorithms are available to download here [2021 Resuscitation Guidelines | Resuscitation Council UK](#) but we will be sending the posters round to stations to ask they be displayed in place of the previous versions.

Thanks

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