Updated International Guidelines for Pediatric Resuscitation

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Goals for emergency physicians include focusing on both respiratory and cardiac support, with consideration of targeted temperature management and extracorporeal membrane oxygenation when feasible.

Sponsoring Organization: International Liaison Committee on Resuscitation

Target Audience: Physicians who care for critically ill children, including emergency physicians, family medicine physicians, pediatricians, and pediatric intensivists.

Background and Objective: These guidelines update the 2010 International Liaison Committee on Resuscitation guidelines for pediatric resuscitation.

Key Recommendations:

- Because many pediatric arrests involve a respiratory event, rescue breaths should accompany chest compressions for pediatric cardiac arrest.
- Defibrillation doses should start at 2–4 J/kg with monophasic or biphasic waveform devices.
- Either amiodarone or lidocaine may be used for shock-resistant ventricular fibrillation or pulseless ventricular tachycardia.
- Based on short-term outcomes, standard-dose epinephrine is a reasonable vasopressor choice.
- When expertise and resources are available,
  - Extracorporeal membrane oxygenation (ECMO) should be considered for children with cardiac diagnoses (e.g., fulminant myocarditis) who have in-hospital cardiac arrest.
  - Children with out-of-hospital cardiac arrest and return of spontaneous circulation should undergo targeted temperature management (TTM) — either hypothermia (32°C–34°C) or normothermia (36°C–37.5°C).
- Positive outcome predictors (e.g., age >1 year, initial shockable rhythm) can be used to assist in prognostic decision-making and to determine futility of further resuscitation efforts.

Owing to lack of evidence for or against, no recommendations could be made for the following in pediatric resuscitation:

- Use of atropine to prevent shock or arrhythmias with intubation.
- Prioritizing chest compressions (C-B-A) versus airway and breathing (A-B-C) in cardiac arrest.
- Use of end tidal CO₂ to adjust chest compression technique.

Comment: These recommendations are largely unchanged from the 2010 guidelines, save the new additional recommendations for centers with the ability to provide TTM and ECMO.

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