Advanced Airways in Pediatric Resuscitation

Most pediatric cardiac arrests are triggered by deterioration of respiratory function.

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**Out-of-hospital cardiac arrest**

2019 Recommendation: Bag-mask ventilation is a reasonable alternative to advanced airway interventions (including endotracheal intubation or supraglottic airway).

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**In-hospital cardiac arrest**

No Recommendation for or against the use of an advanced airway; advanced airway interventions may require more training and equipment.

New guidelines are largely based on observational studies involving only out-of-hospital cardiac arrests.

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Targeted Temperature Management

Targeted temperature management (TTM) involves keeping core temperatures within a certain range to induce therapeutic hypothermia in pediatric patients who remain comatose after cardiac arrest.

2019 Recommendation: Continuously monitor core temperature during TTM.

For patients between 24 hours and 18 years of age who remain comatose after cardiac arrest, there are 2 reasonable options:

**Option 1:** Use TTM to maintain 32°C to 34°C, followed by TTM to maintain 36°C to 37.5°C.

**Option 2:** Use TTM to maintain 36°C to 37.5°C.

2019 Recommendation: TTM can be considered for both in-hospital and out-of-hospital cardiac arrest.

New TTM recommendations are based on the THAPCA-IH trial (Therapeutic Hypothermia After Pediatric Cardiac Arrest In-Hospital).

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Extracorporeal CPR

Extracorporeal CPR refers to a cardiopulmonary bypass, which maintains organ perfusion while cardiac arrest causes are addressed.

2019 Recommendation: Consider extracorporeal CPR in pediatric patients with cardiac diagnoses who are experiencing in-hospital cardiac arrest in a centre with extracorporeal membrane oxygenation capability.

Because of insufficient evidence, there are no recommendations for or against extracorporeal CPR in pediatric out-of-hospital cardiac arrests or noncardiac diagnoses.