Advanced Airways During CPR

Out-of-Hospital Advanced Airway Needed

- If high-volume ICU tube is available
- If new IL tube success rates exceed 75% of training opportunities
- EMS systems performing prehospital intubation

Advanced Airways During CPR

Supraglottic airway or ET tube can be used

- Supraglottic airway can be used
- Supraglottic airway is appropriate
- Randomly performing ET intubation requires frequent experience and training.

Recommendations assume providers from whom training was obtained to have the capacity to clinically assess when advanced airways are needed.

In-Hospital Advanced Airway Needed

- If providers are trained
- Supraglottic airway or ET tube can be used

Vasopressors During CPR

2019 Recommendation: It is recommended that epinephrine be administered for cardiac arrest.

Randomized controlled trials (RCTs) demonstrated improved 30-day survival and survival to discharge. However, epinephrine was not shown to increase rates of survival with favorable neurological outcome. Although a large study found an increase in short-term survival with unfavorable neurological outcome, this difference did not persist for more than 30 days.

The benefits of epinephrine support the recommendation for its use, despite some remaining uncertainty about overall impact on neurological outcome.

Standard-Dose Epinephrine vs High-Dose Epinephrine

Since 2015, no new studies were identified, so the 2015 recommendation of standard-dose epinephrine remains unchanged.

Vasopressin vs Epinephrine

Vasopressin may be considered in cardiac arrest, but it offers no advantage as a substitute for epinephrine.

Vasopressin combined with epinephrine may be considered in cardiac arrest, but it offers no advantage as a substitute for epinephrine alone.

Dose and Timing of Epinephrine Administration

2019 Recommendations

It may be reasonable to administer epinephrine after defibrillation attempts have failed.

It is reasonable to administer epinephrine as soon as feasible.

Extracorporeal CPR

Extracorporeal CPR is not recommended for routine use in cardiac arrest.

Consider extracorporeal CPR when conventional CPR is failing if providers are skilled and can implement it quickly.

Extracorporeal CPR is performed with an extracorporeal membrane oxygenation device. It includes a venous cannula, a pump, an oxygenator, and an arterial cannula.

Why?

No published RCTs assessed ECPR in cardiac arrest.

Observational Studies

Although results were inconsistent across studies, some found improved survival and neurological outcome with extracorporeal CPR compared to conventional CPR.

Systematic Review

Most studies used young, healthy patients or were conducted in centers that have experience with extracorporeal CPR.

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

2019 Recommendations

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