2015 Interim Training Materials

PALS Provider Manual Comparison Chart

Updated 12/04/2015

	New	Old	Rationale
Chest compression rate (Part 1, BLS Competency Testing; apply update throughout course as needed)	Push at a rate of 100 to 120 compressions per minute for infants and children.	Push at a rate of at least 100 compressions per minute.	One adult registry study demonstrated inadequate chest compression depth with extremely rapid compression rates. To maximize educational consistency and retention, in the absence of pediatric data, pediatric experts adopted the same recommendation for compression rate as is made for adult BLS.
Ventilation during CPR with an advanced airway (Part 1, BLS Competency Testing; apply update throughout course as needed)	It may be reasonable for the provider to deliver 1 breath every 6 seconds (10 breaths per minute) while continuous chest compressions are being performed (ie, during CPR with an advanced airway).	When an advanced airway (ie, endotracheal tube, Combitube, or laryngeal mask airway) is in place during 2-person CPR, give 1 breath every 6 to 8 seconds without attempting to synchronize breaths between compressions (this will result in delivery of 8 to 10 breaths per minute).	This simple single rate for children and infants—rather than a range of breaths per minute—should be easier to learn, remember, and perform.

	New	Old	Rationale
Recommendations for fluid resuscitation (Part 7, Rate and Volume of Fluid Administration)	For children in shock, an initial fluid bolus of 20 mL/kg is reasonable. However, for children with febrile illness in settings with limited access to critical care resources (ie, mechanical ventilation and inotropic support), administration of bolus IV fluids should be undertaken with extreme caution, as it may be harmful. Individualized treatment and frequent clinical reassessment are emphasized.	Children with septic shock typically require at least 60 mL/kg of isotonic crystalloid solution during the first hour of therapy; 200 mL/kg or more may be required in the first 8 hours of therapy.	This recommendation continues to emphasize the administration of IV fluid for children with septic shock. Additionally, it emphasizes individualized treatment plans for each patient, based on frequent clinical assessment before, during, and after fluid therapy is given, and it presumes the availability of other critical care therapies. In certain resource-limited settings, excessive fluid boluses given to febrile children may lead to complications where the appropriate equipment and expertise might not be present to effectively address them.
Atropine for endotracheal intubation (Part 8, Atropine)	There is no evidence to support the *routine* use of atropine as a premedication to prevent bradycardia in emergency pediatric intubations. It may be considered in situations where there is an increased risk of bradycardia. There is no evidence to support a minimum dose of atropine when used as a premedication for emergency intubation.	Atropine for endotracheal intubation: A minimum atropine dose of 0.1 mg IV was recommended because of reports of paradoxical bradycardia occurring in very small infants who received low doses of atropine.	Recent evidence is conflicting as to whether atropine prevents bradycardia and other arrhythmias during emergency intubation in children. However, these recent studies did use atropine doses less than 0.1 mg without an increase in the likelihood of arrhythmias.
Antiarrhythmic medications for shock-refractory VF or pulseless VT (Part 10, Table 2: Pediatric Cardiac Arrest Medication, and Pediatric Cardiac Arrest Algorithm)	Amiodarone or lidocaine is equally acceptable for the treatment of shock-refractory ventricular fibrillation (VF) or pulseless ventricular tachycardia (pVT).	Amiodarone was recommended for shock-refractory VF or pVT. Lidocaine can be given if amiodarone is not available.	A recent, retrospective, multi-institution registry of inpatient pediatric cardiac arrest showed that, compared with amiodarone, lidocaine was associated with higher rates of return of spontaneous circulation and 24-hour survival. However, neither lidocaine nor amiodarone administration was associated with improved survival to hospital discharge.

	New	Old	Rationale
Targeted temperature management (Part 11, Neurologic System, General Recommendations, "Temperature control" row)	For children who are comatose in the first several days after cardiac arrest (in-hospital or out-of-hospital), temperature should be monitored continuously and fever should be treated aggressively. For comatose children resuscitated from OHCA, it is reasonable for caretakers to maintain either 5 days of normothermia (36°C to 37.5°C) or 2 days of initial continuous hypothermia (32°C to 34°C) followed by 3 days of normothermia. For children remaining comatose after IHCA, there are insufficient data to recommend hypothermia over normothermia.	Therapeutic hypothermia (32°C to 34°C) may be considered for children who remain comatose after resuscitation from cardiac arrest. It is reasonable for adolescents resuscitated from witnessed out-of-hospital VF arrest	A prospective, multicenter study of pediatric OHCA victims randomized to receive either therapeutic hypothermia (32°C to 34°C) or normothermia (36°C to 37.5°C) showed no difference in functional outcome at 1 year between the 2 groups. This and other observational studies demonstrated no additional complications in the group treated with therapeutic hypothermia. Results are currently pending from a large, multicenter, randomized controlled trial of therapeutic hypothermia for patients who are comatose after ROSC following pediatric IHCA