2015 Interim Training Materials

PALS Provider Manual Comparison Chart

	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.	A single large registry series suggested that as the compression rate increases to more than 120/min, compression depth decreases in a dose-dependent manner. For example, the proportion of compressions of inadequate depth was about 35% for a compression rate of 100 to 119/min but increased to inadequate depth in 50% of compressions when the compression rate was 120 to 139/min and to inadequate depth in 70% of compressions when the compression rate was more than 140/min.
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.

	New	Old	Rationale
Atropine for endotracheal intubation (Part 8, Atropine)	There is no evidence to support the *routine*use of atropine as a premedication to prevent bradycardiain emergency pAs shown in rows 1 through 3, changes to the assessment sequence have been made to allow for consistency with the BLS course and also include a simultaneous breathing and pulse check.A student can choose to perform a breathing and pulse check separately, each for no less than 5 seconds and no more than 10 seconds. Or these actions may be performed simultaneously, for a minimum of 5 seconds and a maximum of 10 seconds. Row 6 shows that the ompression rate has been updated to 100 to 120 compressions per minute. The student should deliver 30 compressions in no less than 15 and no more than 18 seconds. While there are clarifications in the chest compression depth recommendations, an upper limit is not evaluated 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.

	New	Old	Rationale
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.
Targeted temperature management (Part 11, Neurologic System, General Recommendations, "Temperature control" row)	For comatose children resuscitated from out-of-hospital cardiac arrest it is reasonable for caretakers to maintain either 5 days of normothermia (36°C to 37.5°C) followed by 3 days of 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	Initial studies of targeted temperature management (TTM) examined cooling to temperatures between 32°C and 34°C compared with no well-defined TTM and found improvement in neurologic outcome for those in whom hypothermia was induced. A recent high-quality study compared temperature management at 36°C and at 33°C and found outcomes to be similar for both. Taken together, the initial studies suggest that TTM is beneficial, so the recommendation remains to select a single target temperature and perform TTM. Given that 33°C is no better than 36°C, clinicians can select from a wider range of target temperatures. The selected temperature may be determined by clinician preference or clinical factors.