2018 Focused Updates: Implications for Training ACLS and PALS Providers

American Heart Association.

CPR & Emergency Cardiovascular Care

The *2018 American Heart Association Focused Updates on Adult Advanced Cardiovascular Life Support and Pediatric Advanced Life Support* contains updated, revised, and unchanged recommendations. This Focused Update was based on the *2018 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science With Treatment Recommendations Summary and evidence review.*

The review considered the use of Amiodarone, Lidocaine, Magnesium, and Beta-blockers for antiarrhythmic therapy during and immediately after adult and pediatric adult ventricular fibrillation (VF) and pulseless ventricular tachycardia (pVT) cardiac arrest. As a result, the adult and pediatric writing group's recommendations for CPR and ECC have been updated and now provide further clarity regarding the application of antiarrhythmics during cardiac arrest. The recommendations are as follows:

1. Adult Recommendations

    a. Use of antiarrhythmic drugs during resuscitation from adult VF/pVT cardiac arrest
        i. Amiodarone or lidocaine may be considered for VF/pVT that is unresponsive to defibrillation. These drugs may be particularly useful for patients with witnessed arrest, for whom time to drug administration may be shorter.
            1. Lidocaine dosing for bolus IV/IO administration in adult ALS is recommended as: First dose:1-1.5 mg/kg. Second dose: 0.5-0.75 mgkg

        ii. The routine use of magnesium for cardiac arrest is not recommended in adult patients. Magnesium may be considered for torsades de pointes (i.e., polymorphic VT associated with long-QT interval). The wording of this recommendation is consistent with the AHA's 2010 Guidelines for CPR and ECC.

    b. Use of antiarrhythmic drugs immediately following return of spontaneous circulation (ROSC) following adult cardiac arrest
        i. There is insufficient evidence to support or refute the routine use of a β- blocker early (within the first hour) after ROSC.
        ii. There is insufficient evidence to support or refute the routine use of lidocaine early (within the first hour) after ROSC.

2. Pediatric Recommendations
    a. For shock-refractory VF/pVT, either amiodarone or lidocaine may be used. This is unchanged from the 2015 recommendation.
        1. Lidocaine dosing for IV/IO administration in Pediatric ALS is recommended as: Initial:1 mg/kg loading dose. Maintenance: 20-50 mcg/kg per minute infusion (repeat bolus dose if infusion is initiated >15 minutes after initial bolus therapy).

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AHA Instructors and Training Centers should note that the AHA recommendations for ACLS and PALS have been updated and now provide clarification on the use of antiarrhythmics during and immediately after cardiac arrest:

- Instructors may allow students to practice *using either amiodarone or lidocaine* during CPR in courses (ACLS, ACLS EP, PALS) consistent with the student's local protocol.

- For testing purposes, AHA Instructors will continue to use the ACLS and PALS Skills Testing Checklists and the Skills Testing Critical Skills Descriptors.

As recommendations are changed or updated in the future, the AHA will continue to review how they can be implemented in training.