ACLS Drug Overview

Reminder: Follow each peripheral IV drug administration with a 20 ml IV flush and elevate the extremity above the level of the heart for 10 to 20 seconds. Also, if patient is in cardiac arrest, administer drugs during CPR to ensure medication circulation.

Epinephrine – vasopressor – use for: VF/Pulseless VT; Asystole/PEA; Symptomatic Bradycardia

- Increases heart rate
- Increases force of contraction
- Increases conduction velocity
- Peripheral vasoconstriction
- Bronchial dilation

1 mg (10 ml) 1:10,000 IV/IO push; may repeat every 3 to 5 minutes; ET dose 2.0 to 2.5 mg 1:1,000 diluted in 10 ml NS.

For profound Bradycardia or Hypotension use: 2 – 10 mcg per minute infusion; titrate to patient response.

Vasopressin – vasopressor – may use to replace first or second dose of Epinephrine for: VF/Pulseless VT, Asystole/PEA

- Vasoconstrictor
- Improves perfusion of heart, lungs, brain

One dose of 40 units IV/IO push.

Amiodarone – antiarrhythmic - use for: VF/Pulseless VT (unresponsive to shock, CPR and vasopressor); recurrent, hemodynamically unstable VT

- Powerful antiarrhythmic (substantial toxicity potential)
- Affects sodium and potassium

300 mg IV/IO push; second dose 150 mg IV/IO push.

For stable VT WITH a pulse use: 150 mg IV/IO push.
Lidocaine – antiarrhythmic – alternative to Amiodarone for: VF/Pulseless VT

- Depresses automaticity
- Depresses excitability
- Raises ventricular fibrillation threshold
- Decreases ventricular irritability

1 to 1.5 mg/kg IV/IO; repeat if indicated at 0.5 to 0.75 mg/kg IV/IO over 5 to 10 minute intervals to a maximum of 3 mg/kg. ET dose 2 to 4 mg/kg.

Magnesium Sulfate – use to: terminate or prevent recurrent VT associated with Torsades de Pointes; Refractory VF; VF with history of alcoholism

- Correct hypomagnesemic state
- Correct ventricular arrhythmias due to digitalis toxicity, tricyclic anti-depressant overdose

1 to 2 g (2 to 4 ml of a 50% solution) diluted in 10 ml D5W IV push.

Adenosine – use when vagal maneuvers fail to terminate: stable narrow-complex SVT; regular monomorphic wide-complex tachycardia

- Interrupts reentry (SVT causing) pathways through the AV node to restore sinus rhythm in patients with SVT

6 mg RAPID IV push. If no conversion after 1 – 2 minutes administer second dose 12 mg RAPID IV push. Don’t forget 20 ml IV flush and elevation of extremity after Adenosine administration!

Consider β – Blocker or calcium channel blocker

Atropine – use for: Bradycardia

- Increases heart rate

0.5 mg IV bolus; repeat every 3 – 5 minutes; maximum 3 mg. (Note: May not be effective for patients with transplanted hearts.)

Dopamine – second-line drug after Atropine – use for: Bradycardia; Hypotension (SBP ≤ 70 to 100 mmHg) with signs and symptoms of shock

Infusion: 2 to 20 mcg/kg per minute; titrate to patient response; taper slowly

Post Cardiac Arrest Care with ROSC – IV Infusions:

Epinephrine – 0.1 – 0.5 mcg/kg per minute (in 70 kg adult: 7 – 35 mcg per minute)

Dopamine – 5 – 10 mcg/kg per minute

Norepinephrine – 0.1 – 0.5 mcg/kg per minute (in 70 kg adult: 7 – 35 mcg per minute)
Acute Coronary Syndromes – drugs to relieve ischemic discomfort; dissolve clots; inhibit thrombin and platelets – “MONA greets all patients at the door”:

- **Oxygen** – for dyspnea, hypoxemia, heart failure; O2 saturation ≤ 94% - **titrate to ≥ 94%**
- **Aspirin** – use if no history of aspirin allergy or recent stomach bleeding - **160 to 325 mg chewed**
- **Nitroglycerin** – venodilator – use if SBP >90 mmHG and heart rate is 50 to 100/min. – **1 sublingual tablet or spray “dose” every 3 – 5 minutes to a maximum of 3 total doses**
- **Morphine** – venodilator – use for chest discomfort unresponsive to Nitroglycerin
- **Fibrinolytics** – reperfusion therapy
- **Heparin** – inhibit thrombin – use for patients with UA/NSTEMI
- **β-Blockers** – administer to all patients with suspected MI and unstable angina if no contraindications

Remember to check for and treat all **Reversible Causes**:

- Hypovolemia
- Hypoxia
- Hydrogen Ion (acidosis)
- Hypo-/Hyperkalemia
- Hypothermia
- Tension Pneumothorax
- Tamponade, cardiac
- Toxins
- Thrombosis, pulmonary
- Thrombosis, coronary