

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 \leq 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