ACLS DRUG OVERVIEW

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EPINEPHRINE (VASOPRESSOR) Indicated in cardiac arrest. Increases heart rate, increase contractility and peripheral vascular resistance. Standard Arrest Dose: 1 mg IV q3-5 min (1:10,000). E-T Tube: 2.0-3.0 mg diluted in 10cc NS. Also for profound bradycardia and/or hypotension as a Drip: 2-10 mcg/minutes.

VASOPRESSIN (VASOPRESSOR) May be used in the Pulseless arrest as an alternative pressor to epinephrine. May give 1 dose – 40u IV/IO to replace first or second dose of epinephrine.

AMIODARONE (ANTIARRHYTHMIC) Used for both atrial and ventricular arrhythmias. Indicated for shock-refractory VT/VF Arrest Dose: 300 mg IVP, consider repeating with 150 mg IVP in 3-5min. Tachycardia Dose: 150 mg over 10 min. Max 2.2 gm/24 hr. Side effects are Bradycardia Hypotension.
***Useful in controlling rate of atrial fibrillation and atrial flutter with WPW.*

PROCAINAMIDE (ANTIARRRHYTHMIC) Used in a wide variety of arrhythmias. Non-arrest dose: 20-50 mg/min. End points: Maxinum dose of 17 mg/kg (1.2 Gm for 70 kg patient), or QRS widens 50%, hypotension, control of arrhythmia. Note: may cause torsades de pointes with QRS widening and prolong QT intervals. Drip: 1 Gm/250cc's at 1-4 mg/min.
***Useful in controlling rate of atrial fibrillation (with rapid pulse) in WPW.*

SOTALOL NEW! (ANTIARRHYTHMIC) Treatment of supraventricular and ventricular arrhythmias in patients without structural heart disease. Should be avoided in patients with poor perfusion because of significant negative inotropic effects. Adverse effects include bradycardia, hypotension, and torsades de pointes. IV dose: 1-1.5 mg/kg over 5 minutes. Package insert recommends slow infusion, but literature supports a more rapid infusion of 1.5mg/kg over 5 minutes or less.

LIDOCANE (ANTIARRHYTHMIC) Used for ventricular arrhythmias. An alternative to Amiodarone for VT/Vfib Dose: 1.0 – 1.5 mg/kg IV total-3.0 mg/kg. E-T Tube: 2.0 – 4.0 mg/kg. Drip: 1Gm/250cc at 1-4mg/min.

MAGNESIUM SULFATE Indicated in cardiac arrest – Torsades de Pointes.Indicated for torsades de pointes with a pulse and life threatening arrhythmias due to digitalis toxicity. Dose: 1-2 Gm (2-4 ml of a 50% solution) diluted. IVP in full arrest. 1-2g in 50 to 100 ml of DSW over 5-60 minutes in non-arrest.

ADENOCARD Short half-life (<10 seconds). Slows A-V node conduction. First drug for most forms of narrow complex PSVT. Does not convert atrial fibrillation, flutter or MAT. Dose: 6mg rapid IV push, followed by 20ml NS push, may repeat twice after 1-2 min at 12mg IVP. See precautions/contraindications in ECC Handbook.

ATROPINE Decreases vagal reflex, accelerates the rate of sinus node, may be useful in AV Block at the nodal level. Bradycardia dose: 0.5mg IVP q3-5 minutes – total 0.04mg/kg.

DOPAMINE Inotropic & Chronotropic: 1-4mcg/kg/min – (low dose); 5-10mcg/kg/min = (cardiac dose) 11-20mcg/kg/min = (vasopressor dose). Useful in the treatment of cardiogenic shock, hypotension, symptomatic bradyarrhythmias. CAUTION: May increase myocardial oxygen requirements or worsen ischemia. Drip: 400mg in 250cc = 1600mcg/cc

NITROGLYCERIN Sublingual or IV drip. Vasodilator. Useful in the relief of chest pain in angina/unstable angina or ACS, antihypertensive, CHF.

MORPHINE	Rellief of pain in ACS: small, frequent doses (2-4mg) IV. Titrate to pain or hemodynamics. May be useful in pulmonary edema.
BETA BLOCKER	Indicated for rate control and hypertension in ACS patients. Also used in the treatment of high-risk unstable angina and SVTs without impaired pumping function. Shown to reduce the incidence of Vfib. Examples: metoprolol, atenolo, propanolo, esmolol & labetalol.
SODIUM BICARB	Not recommended for routine use in cardiac arrest patients. Adequate ventilation and CPR, not bicarbonate, are the major "buffer agents" in cardiac arrest. May be responsive acidosis, prolonged arrest, and certain drug overdoses. Dose: 1mEg/kg IV.
CALCIUM BLOCKERS	Verapamil & Diltiazem are calcium channel blocking agents that slow conduction and increase refractoriness in the AV node. Used to terminate reentry SVTs and to control rate in patients with Afib, Aflutter, or MAT.
ACE INHIBITORS	Used to reduce mortality in post AMI patients by limiting infarct expansion. They block an enzyme in the body that is necessary to produce a substance that causes blood vessels to tighten. As a result, they relax blood vessels. This lowers blood pressure and increases the supply of blood and oxygen to the heart. Examples: Elanapril, Captopril, Lisinopril, Rampril.
GLYCOPROTEIN IIb/IIIa INHIBITORS	These agents thin blood by blocking platelets. They effectively reduce the risk for heart attack or death in patients with unstable angina and non-Q-wave infarctions when used in combination with heparin or aspirin. Examples: Reopro, Integrilin, Aggrastat.
FIBRINOLYTIC THERAPY	Clot busting drugs used for AME and Acute Ischemic Stroke. AMI Thrombolytic Package includes aspirin, heparin and a thrombolytic agent, e.g., Alteplase (TPA), Streptokinase, APSAC, Retavase, Tenecteplase (TNK).

For AMI in Adults:

- ST elevation (1mm or more in at least two contiguous leads) or new or presumably new LBBB; strongly suspicious for injury
- In context of signs and symptoms of AMI
- Time from onset of symptomes **<12 hours**

For Acute Ischemic Stroke:

(Alteplase is the only thrombolytic agent approved for acute ischemic stroke)

- Sudden onset of focal neurological deficits or alterations in consciousness (e.g., facial droop, arem drift, abnormal speech)
- Absence of intracerebral or subarachnoid hemorrhage or mass effect on CT scan
- Absence of variable or rapidly improving neurological deficits
- Alteplase can be started in **<3 hours** from symptom onset

ETT - Instillation: *(Drugs that can be given via the Endotracheal Tube)*

-**LEAN**-
L idocaine
E pinephrine
A tropine
N arcan (must be diluted)

-**NAVEL**-
N arcan (must be diluted)
A tropine
E pinephrine
V asopressin
L idocaine

Reference: American Heart Association 2005/2010 ECC Handbook for Healthcare Providers