

ACLS PHARMACOLOGY

Drug	Indications	Dosage	Precautions
Adenosine	First drug for most forms of narrow complex PSVT. Effective in terminating those due to reentry involving AV node or Sinus node. Does <i>not</i> convert A Fib/A Flutter/VT Safe and effective in pregnancy.	6 mg <u>rapid</u> IV push, follow with 20 ml NSS; if needed, repeat dose of 12 mg in 1- 2 mins may give 3 rd dose of 12 mg	Brief period of asystole often follows administration. Common side effects: facial flushing, coughing, dyspnea, bronchospasm. Avoid in WPW
Amiodarone (Cordarone)	Cardiac Arrest: Shock refractory/recurrent VF/Pulseless VT	Cardiac Arrest: 300 mg IV/IO (recommend diluting with 20-30 mL D5W) push, consider repeating one 150 mg IV push in 3-5 mins MAX dose: 2.2 g IV/24 hrs	Vasodilation and hypotension May have negative inotropic effects May prolong QT interval Half-life lasts up to 40 days Seek expert consultation
	Polymorphic VT and wide-complex tachy of uncertain origin, Adjunct to cardioversion of SVT/PSVT Termination of MAT Conversion of A Fib Rate control of A Fib or A Flutter, when other therapies are ineffective	Stable wide-complex tachy: <i>Rapid infusion:</i> 150mg/10 mins Repeat q 10 mins as needed <i>Slow infusion:</i> 360 mg/6 hrs <i>Maint. Infusion:</i> 540 mg/18 hrs MAX dose: 2.2 g IV/24 hrs WPW- consider 150 mg/10 mins IV	Caution multiple complex drug interactions
Atropine	Symptomatic Sinus Brady May be beneficial in 2 nd ° AV Block, Type I (Wenchebcach)	0.5 mg IV q 3-5 mins MAX dose: 0.04 mg/kg (total 3 mg) Use shorter dosing interval (3 mins) and higher doses in severe clinical conditions	Increases myocardial oxygen demand, use with caution in ischemia and hypoxia. Not effective for infranodal blocks or new 3 rd degree block with wide QRS GIVE QUICKLY—low blood levels can cause V Fib
	2 nd drug for asystole or PEA (with brady rate)	1 mg IV/IO push q 3-5 mins MAX: 3 doses (3 mg)	
Diltiazem (Cardizem)	Control ventricular rate in A Fib and A Flutter or MAT May terminate re-entrant arrhythmias that require AV nodal conduction for their continuation (for example: MAT) Use after Adenosine to treat refractory re-entry SVT with narrow QRS and adequate BP	15-20 mg IV (0.25 mg/kg) over 2 mins may repeat in 15 mins at 20-25 mg (0.35 mg/kg) over 2 mins <i>Maint infusion:</i> 5 - 15 mg/hr Titrate to HR Can dilute in D5W or NSS	BP ↓ due to peripheral vasodilation Do not use for wide complex tachys of uncertain origin or for poison/drug induced tachys Avoid in WPW or in AV-block without a pacemaker Avoid with beta-blockers

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Epinephrine	VF Pulseless VT Asystole PEA	1mg (10ml of 1:10,000 solution) q 3-5 mins during resuscitation Follow each dose with 20 mL flush <i>Higher doses</i> up to 0.2 mg/kg may be used for beta-blocker, Ca channel blocker overdose <i>Continuous infusion:</i> 1mg Epi in 500cc NSS or D5W, run at 1mcg/min Titrate to response Can be given via ETT 2- 2.5 mg diluted in 10 mL NSS	Raising BP and HR may cause myocardial ischemia, angina, and increased myocardial oxygen demand High doses do not improve survival or neurologic outcome Higher doses may be required to treat poison/drug-induced shock
	Symptomatic Brady(after Atropine, Dopamine,TCP) Severe hypotension Anaphylaxis	2-10 mcg/min (add 1 mg of 1:1000 to 500 ml NSS,) infuse at 1mcg/min, titrate to response	
Lidocaine	Alt to amiodarone in cardiac arrest from VF/VT Stable monomorphic VT with preserved LVF	1-1.5 mg/kg IV/IO, in 5- 10 mins May repeat 0.5-0.75 mg/kg MAX: 3 doses or total 3 mg/kg <i>Refractory VF-</i> may give add'l 0.5-0.75 mg/kg IV push, repeat in 5-10 mins <i>Maint infusion:</i> 1-4 mg/min	Reduce maintenance dose in impaired liver functions or LV dys. D/C if signs of toxicity develop Prophylactic use in AMI is contraindicated
Magnesium Sulfate	Cardiac arrest if Torsades de Pointes suspected or Hypomagnesemia Ventricular arrhythmias due to Dig toxicity	In arrest: 1-2 g, diluted in 10 ml D5W, IV/IO over 5-20 minutes Other dosing: 1-2 g, in 50-100 ml D5W over 5- 60 mins, follow with 0.5-1 g/hr IV for up to 24 hrs	Rapid administration may lead to fall in BP Use with caution in renal failure Routine administration with AMI pts is not recommended
Vasopressin	Pressor alternative to Epinephrine in shock-refractory VF, PEA, asystole May be useful for hemodynamic support in vasodilatory shock	40 units IV/IO push May replace either 1 st or 2 nd dose of Epi. Epi may be administered every 3-5 minutes during cardiac arrest. May be given by ETT	Potent peripheral vasoconstrictor, May provoke cardiac ischemia and angina

IV/IO preferred route of administration
 Drugs that may be given by ETT: **Narcan, Atropine, Vasopressin, Epi, Lidocaine**
 Typical dose for dugs via ETT is 2- 2 ½ times the IV route
 optimal dose of most drugs via ETT has not been established

References:

ACLS Provider Manual. 2006. American heart Association.
2005 Handbook of Emergency Cardiovascular Care. 2005. American Heart Association.