

Critical Care Drugs

Class: Antiarrhythmic				
Drug	Use	Concentration	Dose	Notes
Amiodarone (Cordarone®)	Management of life-threatening recurrent VF or hemodynamically unstable VT.	Standard: 900 mg/500 mL D5W	Bolus: 150 mg/100 mL D5W over 10 min Standard: 1 mg/min (33.3 mL/hr) for 6 hrs then 0.5 mg/min (16.6 mL/hr)	Adverse Effects: Hypotension, bradycardia, proarrhythmic events, peripheral neuropathy, thyroid dysfunction, nausea, vomiting, pulmonary toxicity
Procainamide (Pronestyl®)	VT, PVC, PAT, A-fib	Standard: 2 gm/500mL D5W, NS; Max: 2 gm/250 mL	Bolus: 500 mg – 1 gm over 30 min Standard: 1-6 mg/min	Adverse Effects: Hypotension, Av-block, bradycardia, lupus-like syndrome, fever, rash, thrombocytopenia and hemolytic anemia
Lidocaine (Xylocaine®)	ventricular arrhythmias	Standard: 2 gm/500 mL	1-4 mg/min	Adverse Effects: Confusion, hypotension, lightheadedness, diplopia, seizures, and tinnitus ▶ Contraindicated in complete or 2nd degree AV block
Class: Beta Blockers				
Drug	Use	Concentration	Dose	Notes
Esmolol (Breviblock®)	Control of ventricular rate in atrial fib/flutter and noncompensating sinus tachycardia	Standard: 2500 mg/250mL NS; Max: 20 mg/mL in D5W, NS	Loading: 500 mcg/kg/min over 1 min Maint.: 50 mcg/kg/min	If HR not controlled repeat loading dose and é rate by 50 mcg/kg/min (max 200 mcg/kg/min); ▶ Central line recommended for max concentration ▶ Contraindications: sinus bradycardia, AVB > 1°, cardiogenic shock
Class: Calcium Channel Blockers				
Drug	Use	Concentration	Dose	Notes
Diltiazem (Cardizem®)	HR control during atrial fib and flutter for 24 hours	Standard: 125 mg/125 mL D5W, NS	Loading: 0.25 mg/kg over 2 min; if inadequate response, 0.35 mg/kg over 2 min Initial: 5 mg/hr Max Rate: 15 mg/hr	↓HR, ↓BP, pruritis ▶ Contraindications: AVB > 1°, WPW syndrome, V-tach, SSS, short PR syndrome
NiCARDipine (Cardene®)	Antianginal, antihypertensive	Standard: 25 mg/250 mL D5W, NS	5 mg/hr, increase by 2.5 mg/hr q 15 min to a max of 15 mg/hr After response is achieved: 3 mg/hr	Adverse effects: flushing, ↑HR, palpitations, angina
Class: Inotrope				
Drug	Use	Concentration	Dose	Notes
Milrinone (Primacor®)	↓PCWP, ↓SVR, ↓MAP	Standard: 40 mg/200 mL D5W Max: 40 mg/200 mL	Loading: 50 mcg/kg over 10 min Maint: 0.375 – 0.75 mcg/kg/min	Adverse Effects: ↑PVC, ventricular arrhythmia, ventricular fib, SV arrhythmia, angina, hypotension, HA
DOBUtamine (Dobutrex®)	↑SV, ↑contractility, ↑CO, ↑HR	Standard: 500 mg/250 mL D5W Max: 1250 mg/250 mL D5W or NS	Initial: 1-5 mcg/kg/min up to 20 mcg; titrate by 1-4 mcg/kg/min q 10-30 min Max Rate: 50 mcg/kg/min	Note: alpha effects predominate above 10 mcg/kg/min Adverse Effects: tachycardia, arrhythmia, HA, NV
Epinephrine (Adrenalin®)	↑HR, ↑contractility, ↑cardiac workload ↑PA pressures, can convert asystole to NSR	Standard: 4 mg/250 mL D5W, NS Max: 1 mg/10 mL	Initial: 0.05-10 mcg/min, then titrate	▶ Central line administration Note: at 20 mcg/min pure alpha effects occur Adverse Effects: tachycardia, arrhythmia, PE, HTN, HA, resp. distress
Class: Sympathomimetics				
Drug	Use	Concentration	Dose	Notes
DOPamine (Intropin®)	↑BP, ↑PCWP, ↑HR	Standard: 800 mg/500 mL D5W Max: 800 mg/250 mL D5W	Initial: 1-5 mcg/kg/min up to 20 mcg; titrate by 1-4 mcg/kg/min q 10-30 min Max Rate: 50 mcg/kg/min	Note: alpha effects predominate above 10 mcg/kg/min Adverse Effects: tachycardia, arrhythmia, HA, NV
Epinephrine (Adrenalin®)	↑HR, ↑contractility, ↑cardiac workload ↑PA pressures, can convert asystole to NSR	Standard: 4 mg/250 mL D5W, NS Max: 1 mg/10 mL	Initial: 0.05-10 mcg/min, then titrate	▶ Central line administration Note: at 20 mcg/min pure alpha effects occur Adverse Effects: tachycardia, arrhythmia, PE, HTN, HA, resp. distress
Class: Sympathomimetic / Vasopressors				
Drug	Use	Concentration	Dose	Notes
Norepinephrine (Levophed®)	↑BP, ↑PA pressure, ↑SVR, ↑myocardial workload	Standard: 4 mg/250 mL D5W only Max: 16 mg/250mL D5W only	Initial: 0.5-1 mcg/min: titrate to desired response Usual: 2-30 mcg/min	▶ Central line administration Adverse Effects: brady or tachycardia, peripheral vasoconstriction, HA, HTN, arrhythmia, ↓urine output, acidosis, hyperglycemia
Phenylephrine (Neo-Synephrine®)	↑BP, ↑SVRM, ↑PA pressure, ↑myocardial workload	Standard: 100 units/100 mL D5W, NS	Initial: 0.05 units/min Max: 360 mcg/min Maint Rate: 40-60 mcg/min	Adverse Effects: arrhythmias, cardiac arrest, ↓CO, angina, myocardial ischemia and periph constriction. Doses > 0.04 units/min associated with more cardiovascular adverse effects
Vasopressin (Pitressin®)	For unlabeled use in septic shock	Standard: 100 units/100mL D5W, NS	Initial: 0.04 units/min (range 0.01-0.04 units/min)	▶ Central line administration
Class: Vasodilators				
Drug	Use	Concentration	Dose	Notes
Sodium nitroprusside (Nipride®)	↓BP, ↓SVR, ↓PCWP ↓CO	Standard: 50 mg/250 mL D5W Max: 100 mg/250 mL D5W	Average Dose: 3 mcg/kg/min Max: 10 mcg/kg/min	▶ Protect from light Adverse Effects: metabolic acidosis, severe hypotension, HA, nausea, dyspnea, LOC, thiocyanate toxicity (esp. with prolonged infusion > 2 mcg/kg/min)
Nitroglycerin (Tridyl®)	↓BP, ↓SVR, ↓PCWP, may ↑HR	Standard: 50 mg/250 mL D5W	Initial: 5 mcg/min, increasing by 5 mcg/min q 3-5 min up to 20 mcg/min Max Rate doses of up to 640 mcg/min have been used Then titrate in increments of 10-20 mcg/min up to 200 mcg/min	▶ Non PVC tubing Adverse Effects: severe hypotension, reflex tachycardia, HA, NV Associated with development of tolerance over 24-48 hrs.
Class: Miscellaneous				
Drug	Use	Concentration	Dose	Notes
PENTObarbitol (Nembutal®)	Barbiturate used to induce coma	Standard: undiluted 50 mg/mL	10 mg/kg over 30 min, then 5 mg/kg/hr × 3 hours, then 1-2.5 mg/kg/hr thereafter If ICP > 20 mg HG and pentobarb conc < 3 mg/dL may admin additional 5 mg/kg	♦♦Must be intubated. Monitor EEG (i.e. burst suppression 30-45 sec) and hemodynamic status♦♦
Thiopental (Pentothal®)	Barbiturate used to induce coma	Standard: 25 mg/mL D5W, NS	20 mg/kg over 1 hour, then 10 mg/kg/hr × 6 hours, then 3 mg/kg/hr thereafter	♦♦Must be intubated. Monitor EEG (i.e. burst suppression 30-45 sec) and hemodynamic status♦♦
Methylprednisolone (Solumedrol®)	For spinal cord injury		Bolus: 30 mg/kg in 100 mL D5W NS over 30 minutes Maint: 5.4 mg/kg in 500 mL × 23 hours	
Argatroban (ARGATROBAN®)		Standard: 250 mg/250 mL D5W, NS	Initial: 2 mcg/kg/min (0.5 mcg/kg/min in severe hepatic dysfunction)	