Adult Critical Care IV Info Card*
*Prescriber responsible for appropriate medication selection, dosing and monitoring

**Antiarrhythmic**

Amiodarone (Cordarone®)  *Central line recommended*  *Use inline filter*
- **Bolus:** 150 mg/100 mL D5W over 10 min
- **Standard Conc:** 900 mg/500 mL D5W
- **Initial Rate:** 1 mg/min (33.3 mL/hr) for 6 hrs then 0.5 mg/min (16.6 mL/hr)
- **Adverse Effects:** hypotension, bradycardia, proarrrhythmic events, peripheral neuropathy, thyroid dysfunction, nausea, vomiting, pulmonary toxicity

Lidocaine (Xylocaine®) - ventricular arrhythmias
- **Standard Conc:** 2 gm/500 mL D5W
- **Usual Rate:** 1-4 mg/min
- **Adverse Effects:** confusion, hypotension, lightheadedness, diplopia, seizures, and tinnitus
  - *Contraindicated* in complete or 2nd degree AV Block

**Beta Blockade**

Esmolol (Brevibloc®) - control of ventricular rate in atrial fib/flutter and noncompensating sinus tachycardia
- **Standard Conc:** 2500 mg/250 mL NS  *Avoid infusion into small veins or through a butterfly catheter*

- **Loading Dose:** 500 mcg/kg/min over 1 min
- **Maint. Dose:** 50 mcg/kg/min
- If HR not controlled repeat loading dose and ↑ rate by 50 mcg/kg/min (max 200 mcg/kg/min); rebolus with 500 mcg/kg/min over 1 min before each increase in rate
  - *Contraindications:* sinus bradycardia, AVB >1°, cardiogenic shock

**Calcium Channel Blocker**

Diltiazem (Cardizem®) - HR control during atrial fib and flutter for 24 hours
- **Standard Conc:** 125 mg/125 mL D5W, NS
- **Loading Dose:** 0.25 mg/kg over 2 min; if inadequate response, 0.35 mg/kg over 2 min
- **Initial Rate:** 5 mg/hr  Max Rate: 15 mg/hr
- **Adverse Effects:** ↓ HR, ↓ BP, pruritis
  - *Contraindicated:* AVB >1°, WPW syndrome, V-tach, SSS, short PR syndrome

NiCARdipine (Cardene®) - antianginal, antihypertensive
- **Standard Conc:** 20 mg/200 mL D5W, NS
- **Max Conc:** 250 mg/500 mL D5W, NS  *(Central line)*
- **Initial Rate:** 5 mg/hr, increase by 2.5 mg/hr q 5-15 min to a max of 15 mg/hr
- **Usual maint rate after response is achieved:** 3 mg/hr
- **Adverse Effects:** flushing, ↑ HR, palpitations, angina
**Inotropes**

Milrinone (Primacor®) - ↓ PCWP, ↓ SVR, ↓ MAP

*Standard Conc: 40 mg/200 mL D5W  Max Conc: 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 Conc: 500 mg/250 mL D5W _Max Conc: 1250 mg/250 D5W or NS*

*Initial Rate: 2-20 mcg/kg/min  Max Rate: 40 mcg/kg/min*

*Adverse Effects: HTN, tachycardia, arrhythmia, angina*

**Neuromuscular Blocking Agents**

Cisatracurium (Nimbex®) - **must be ventilated and sedated.**

*Standard Conc: 200 mg/200 mL D5W, NS*

*Bolus: 0.15-0.2 mg/kg*

*Maint. Dose: Initiate infusion at 3 mcg/kg/min and adjust rate by increments of 0.5 mcg/kg/min until desired response. (Range 0.5-10 mcg/kg/min)*

Monitor with TOF (usual target is 1/4 or 2/4 twitches)

Rocuronium (Zemuron®) - **must be ventilated and sedated.**

*Standard Conc: 250 mg/250 mL D5W, NS  Max Conc: 500mg/100 mL D5W, NS*

*Bolus: 0.6-1 mg/kg*

*Maint. Dose: 8-12 mcg/kg/min and adjust rate by increments of 10% until desired response. Monitor with TOF (usual target is 1/4 or 2/4 twitches)*

Vecuronium (Norcuron®) - **must be ventilated and sedated.**

*Standard Conc: 100 mg/100 mL D5W, NS*

*Bolus: 0.08-0.1 mg/kg*

*Maint. Dose: 0.8-1.7 mcg/kg/min and adjust rate by increments of 0.3 mcg/kg/min until desired response.*

Monitor with TOF (usual target is 1/4 or 2/4 twitches)

**Sympathomimetics**

DOPamine (Intropin®) - ↑ BP, ↑ PCWP, ↑ HR

*Standard Conc: 800 mg/500 mL D5W  _Central line administration_

*Max Conc: 1600 mg/250 mL D5W only*

*Initial Rate: 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, N/V*
EPINEPHrine (Adrenalin®) - ↑ HR, ↑ contractility, ↑ CO, ↑ cardiac workload, ↑ PA pressures, can convert asystole to NSR

*Standard Conc:* 4 mg/250 mL D5W
*Max Conc:* 16 mg/250 mL D5W

*Initial Rate:* 0.5-10 mcg/min, then titrate

*Central line administration*

*Protect from light recommended*

*Note:* at 20 mcg/min pure alpha effects occur

*Adverse Effects:* tachycardia, arrhythmia, PE, HTN, HA, resp. distress

**Sympathomimetic/Vasopressors**

NORepinephrine (Levophed®) - ↑ BP, ↑ PA pressure, ↑ SVR, ↑ myocardial workload

*Standard Conc:* 4 mg/250 mL D5W
*Max Conc:* 16 mg/250 mL D5W only

*Initial Rate:* 0.5-1 mcg/min; titrate to desired response

*Usual Range:* 2-30 mcg/min

*Adverse Effects:* brady or tachycardia, peripheral vasoconstriction, HA, HTN, arrhythmia, ↓ urine output, acidosis, hyperglycemia

PHENYLeprine (Vazculep®) - ↑ BP, ↑ SVRM, ↑ PA pressure, ↑ myocardial workload

*Usual Conc:* 50 mg/250 mL NS
*Max Conc:* 2.5 mg/mL NS, SWFI

*Initial Rate:* 100-180 mcg/min

*Central line administration*

*Usual Rate:* 360 mcg/min

*Maint Rate:* 40-60 mcg/min

*Adverse Effects:* HTN, HA, V-tach, ↓ renal perfusion, metabolic acidosis, severe bradycardia, restlessness

**Vasopressin (Vasostrict®)**

*Standard Conc:* 100 units/100 mL D5W, NS

*Initial Rate for post-cardiotomy shock:* 0.03 units/min

*Initial Rate for septic shock:* 0.01-0.03 units/min

*Usual Range:* 0.01-0.04 units/min

Titrated up by 0.005 units/min every 10-15 min

Titrated down by 0.005 units/min every hour

*Adverse Effects:* arrhythmias, cardiac arrest, ↓ CO, angina, myocardial ischemia, and periph constriction. Doses greater than 0.04 units/min associated with more cardiovascular adverse effects.

**Vasodilators**

Sodium nitroprusside (Nipride®) - ↓ BP, ↓ SVR, ↓ PCWP, ↑ CO

*Protect from light*

*Standard Conc:* 50 mg/250 mL D5W
*Max Conc:* 100 mg/250 mL D5W only

*Initial Rate:* 0.3-0.5 mcg/kg/min; titrate by 0.5 mcg/kg/min increments

*Average Dose:* 3 mcg/kg/min Max Dose: 10 mcg/kg/min

*Adverse Effects:* metabolic acidosis, severe hypotension, HA, nausea, dyspnea, LOC, thiocyanate toxicity (esp. with prolonged infusion greater than 2 mcg/kg/min).
Nitroglycerin (Tridil®) - ↓ BP, ↓ SVR, ↓ PCWP, may ↑ HR  **Non-PVC vented tubing**
Standard Conc: 50 mg/250 mL D5W
Initial Rate: 5 mcg/min, increasing by 5 mcg/min q 3-5 min up to
20 mcg/min, then titrate in increments of 10-20 mcg/min up to 200 mcg/min
Max Rate: doses of up to 640 mcg/min have been used
Adverse Effects: severe hypotension, reflex tachycardia, HA, N/V
Note: assoc. with development of tolerance over 24-48 hrs.

**Miscellaneous**

Argatroban (Argatroban®) - direct thrombin inhibitor anticoagulant used in patients with HIT
Standard Conc: 1:1
Initial Rate: 2 mcg/kg/min  (0.5 mcg/kg/min in severe hepatic dysfunction)
Monitor aPTT

Dexmedetomidine (Precedex®) - sedative used in intubated mechanically-vented patients
Standard Conc: 400 mcg/100 mL NS
Initial Rate: 0.2-0.7 mcg/kg/hr.  Titrate every 30 min to RASS (usual target -1).
Max Rate: 1.6 mcg/kg/hr
Monitor HR, BP

Furosemide (Lasix®)
Standard Conc: 500 mg/50 mL undiluted
Standard Rate: 10-40 mg/hr.
Monitor I&O’s, BP, serum electrolytes, hearing

Midazolam (Versed®) - sedative used in intubated mechanically-vented patients
Standard Conc: 100 mg/100 mL NS
Initial Rate: 0.02 to 0.1 mg/kg/hr (0.3 to 1.7 mcg/kg/min)
Titrate to RASS (usual target -2)

PENTOBARBITAL (Nembutal®) - barbiturate used to induce coma in intubated mechanically-vented patients
Standard Conc: undiluted 50 mg/mL  **Central line recommended**
Dose: 10 mg/kg over 30 min, then 5 mg/kg/hr x 3 hours, then 1-2.5 mg/kg/hr thereafter
If ICP greater than 20 mmHg and pentobarb conc less than 3 mg/dL may administer an additional 5 mg/kg
** Must be intubated. Monitor EEG (i.e. burst suppression 30-45 sec) and hemodynamic status **

Propofol (Diprivan®) - general anesthetic or sedative used in intubated mechanically-vented patients
Standard Conc: 1000 mg/100 mL, 500 mg/50 mL
Initial Rate: 5 mcg/kg/min.  Titrate by 5-10 mcg/kg/min every 5-10 minutes
until desired sedation level is achieved as per RASS (usual target -2).
Max Rate: 50 mcg/kg/min
Monitor HR, BP  Contraindicated in patients with egg allergy

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Stony Brook Medicine

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