

CSDU/CSSU IV Drips

Drug	Class/Action	Initial Rate	Titration	Goal	Adverse Reactions & Considerations	Other & Tips
Antihypertensives						
Nicardipine (Cardene)	-Calcium Channel Blocker -Vasodilation	5 mg/hr	-2.5 mg/hr Q 15 min MAX dose: 15 mg/hr	-Per order -"keep SBP less than #"	-Hypotension	- May lead to CHF exacerbation
Nitroglycerine (Tridil) <i>*Protect from Light (given for HTN & chest pain)</i>	-Vasodilator	5-10 mcg/min	-5 mcg/min Q 5 min (can only be titrated for BP with cards consult) MAX dose: 100mcg/min	-Per order -"keep SBP less than #"	-Hypotension -Headache -Nausea	- if pt is highly symptomatic, ask about alternative therapies.
Labetalol (Normodyne)	-Beta-Blocker(Alpha activity) -Relaxes blood vessels& slows HR	1mg/min	-0.5mg/min Q 10 min MAX dose: 2 mg/min	-Per order -"keep SBP less than #"	- Hypotension -Bradycardia	-not recommended for CHF patients or pt's with bronchial asthma
Anticoagulants						
Argatroban (Use when Heparin is Contraindicated)	-Direct thrombin Inhibitor.	0.5-1 mcg/kg/min	-per protocol		-Bleeding -Hypotension	- Bridging to Coumadin- stop gtt when INR is > 4
Cangrelor (Kengreal) (commonly used for Plavix "washouts" pre-op)	-Selective platelet receptive inhibitor, blocks aggregation of Platelets.		-NO titration		-Bleeding	*Mixed in pharmacy, order new bag 1 hour in advance, VERY short elimination half life, 3-6 min.
Heparin (used to bridge to Coumadin post-op or replace oral agent pre-op)	-inhibits the clotting of blood and the formation of stable fibrin clots at various sites in normal coagulation.	Units/kg/hr	-per protocol	- aPTT within therapeutic range, per order	-Bleeding -Thrombocytopenia	
Antiarrhythmic (Or used for)						
Amiodarone (Cordarone) <u>MUST HAVE FILTER on IV tubing to infuse.</u>	-antiarrhythmic Class III	Loading dose: 150 mg over 10 min	Gtt: 1mg/min for 6 hrs, then 0.5 mg/min for 18 hrs	-Conversion to NSR	- Photosensitivity, Nausea, Constipation, elevated liver enzymes.	<i>*irritant(Central line preferred)</i> -avoid drugs that prolong QTc & pt's w/ respiratory failure

Brevibloc (Esmolol) (paroxysmal SVT, A-fib/Flutter & post-op tachycardia)	-beta blocker -antiarrhythmic	50 51 mcg/kg/min	-50 mcg/kg/min Q 5 Min MAX dose: 200 mcg/kg/min	- per MD order	-Bradycardia -Hypotension	-caution with CHF pts
Diltiazem (Cardizem) (Atrial arrhythmias and paroxysmal SVT, rarely HTN)	-Calcium Channel Blocker - Approved to treat Atrial arrhythmias and Paroxysmal SVT	5 mg/hr	-5 mg/hr Q 15 min MAX Dose: 15 mg/hr	-per MD order "titrate to keep HR less than #"	-Bradycardia -Hypotension	- contraindicated w/ WPW syndrome & pt who has had IV beta-blockers w/in a few hours -Avoid use w/ elderly pt's w/ reduced EF.
Lidocaine (Ventricular arrhythmias)	- antiarrhythmic	1 -4 mg/min	-Titrate only with MD Order MAX Dose: 4 mg/min		- Lidocaine toxicity: Restlessness, anxiety, tinnitus, tremors, blurred vision, dizziness.	
Procainamide (Pronestyl) (Life threatening ventricular arrhythmias)	-antiarrhythmic	1 mg/min	-Titrate by 1 mg/min Q 15 min MAX Dose: 4 mg/min		-hypotension	-Contraindicated for pt's with S Lupus E, and torsades de pointes
<u>Inotropic agents</u>						
Dobutamine (Dobutrex) (given for decreased cardiac output and heart failure)	-stimulates the beta-receptors of heart producing hypertensive, mild chronotropic, vasodilative, & arrhythmogenic effects.	2.5 mcg/kg/min	-1 mcg/kg/min Q 15 min MAX dose: 10 mcg/kg/min	-per MD order	-Tachycardia -HTN -Headache -Nausea	*Vesicant(Central line preferred) -Monitor for Hypokalemia & increased ventricular ectopy.
Milrinone (Primacore)	-leads to an increase of intracellular ionized calcium and contractile force in heart muscles.	0.125-0.5 mcg/kg/min	- Per MD order MAX dose: 0.75 mcg/kg/min	-Per MD order	-some chance of hypotension	*irritant(Central line preferred) -Incompatible with Bumex and Lasix
<u>Other</u>						
3% Saline (>3% ICU only)	-Sodium Supplement	-Peripheral line administration (all criteria must be met): 1. Rate ≤50 mL/hour 2. 20 gauge or larger	MAX dose: 50 ml/hr	- Serum sodium check a minimum of every 6 hours ≤ 50 ml/hr ☑ Serum sodium	-Tissue necrosis if infiltration in SQ tissue -CHF & Pulmonary Edema -Hypotension	*Vesicant(Central line preferred) -When utilized for hyponatremia treatment with Na<115, Nephrology

		catheter or midline 3. Duration of infusion ≤36 hours -Central line-no restrictions		check of every 4 hours for rate > 50 ml/hr ☑ All changes to rates of infusion will be double-checked		must be consulted
Octreotide (Sandostatin) (treating bleeding esophageal varices)	-Somatostatin	-50 mcg IV bolus, then 50 mcg/hr IV gtt (off- label dosage).	-No titration MAX dose: 50 mcg/hr		-Bradycardia, arrhythmias/tachycardia -gallstones	-caution in renal failure pt's
Prothrombin Complex Concentrate (Kcentra) (Use for urgent Coumadin reversal)	-Blood modifier agent	25-50 units/kg *infuse at a rate not to exceed 8.4 ml/min *Flush w/ NS after infusion	-No titration	-Decrease INR	-Headache -Thromboembolic disorder	-coadminister vitamin K to maintain vitamin K- dependent clotting factor levels -contraindicated for DIC
Diuretics						
Bumetanide (Bumex) <i>*Protect from Light</i>	-loop diuretic	0.5-2 mg/hr	-No titration	-Consider checking electrolytes and kidney function more frequently	-Monitor for electrolyte and h2o depletion	-Contraindicated in Anuria
Furosemide (Lasix) <i>*Protect from Light</i>	-loop diuretic	10-40 mg/hr	-No titration	-Consider checking electrolytes and kidney function more frequently	-loss of appetite -orthostatic Hypotension -diarrhea -tinnitus	-Contraindicated in Anuria -Monitor for electrolyte and h2o depletion
*Medications used less frequently on CSDU&CSSU				<p>*Vesicant Medications: The most severe type of IV Infiltration usually occurs when highly caustic medications known as vesicants infiltrate the tissues surrounding the IV site causing burns and tissue necrosis, a process called IV Extravasation.</p> <p>*Irritant Medications: An agent capable of producing discomfort or pain along the internal lumen of the vein.</p>		