

**MEMORIAL HOSPITAL CRITICAL MED LIST**  
(MEMORIAL HOSPITAL USE ONLY)

Drug	Mixing and Standard Concentration	Dosing	Exp	Alt Diluent
<b>Aminophylline</b> (Theophylline)	Bolus: Dilute in 100 ml D5W at maximum rate of 25 mg/min (usually given over 20-30 minutes). <b>Infusion: 1 Gram / 1000 ml D5W premix.</b> <b>Standard Concentration: 1 mg / ml</b>  Premixed theophylline is 800 mg / 1000 ml D5W Theophylline 800 mg = Aminophylline 1000 mg and premixed drip considered to be a "1:1"	LD: 6 mg/kg <i>diluted</i> then 0.1 - 1 mg/kg/hr	24 hrs	NS - 24 hrs
<b>Amiodarone</b> (Cordarone)	Bolus: 150 mg / 100 ml D5W (glass or bag) <b>Infusion: 600 mg / 600 ml D5W (Glass only)</b> <b>Standard Concentration: 1 mg/ml</b> <b>(MAX: DOUBLE STRENGTH: 2 MG/ML)</b>	Bolus: over 10 min, then 1 mg/min x 6 hrs, then 0.5 mg/min x 18 hrs <b>**Check with MD before decreasing rate **</b>  Use in-line filter.	PVC 2 hrs polyolefin glass 24 hrs	NS is not recommended DO not use evacuated container
<b>Argatroban</b>	<b>Standard Dilution: 250 mg / 250 ml D5W</b> <b>Concentration: 1 mg/ml</b> (may show slight haziness - repeat inversion of bag x 1 minute -- DO NOT SHAKE)	Initial dose: 2 mcg/kg/min (adjust for hepatic impairment - see PPI)	96 hrs REF or RT <b>if protected from light</b> 24 hrs in ambient light (REF or RT)	NS - same
<b>Dexmedetomidine</b> (Precedex)	<b>Standard Dilution: 200 mcg + 48 ml NS</b> <b>Concentration: 4 mcg/ml</b> Shake gently.  Do NOT change concentration or volume on this drip -- send multiple bags if requested instead.	Bolus: 1 mcg/kg over 10 minutes, then 0.2 - 0.7 mcg / kg / hr Withdraw bolus from bag	48 hrs	D5W - 48 hrs
<b>Diltiazem</b> (Cardizem)	<b>Standard Dilution: 100 mg / 100 ml NS</b> (ADD-Vantage) <b>Standard Concentration: 1 mg / ml</b>	LD: 0.25 mg/kg bolus over 2 minutes, then 5-15 mg/hr.	24 hrs if mixed. ADD-Vantage 30 days	D5W - 24 hrs
<b>Dobutamine</b> (Dobutrex)	<b>Standard Dilution: 500 mg / 250 ml D5W premix</b> <b>Concentration: 2,000 mcgm / ml (2 mg / ml)</b>  Maximum concentration: 5,000 mcgm / ml (5 mg / ml) have been administered to humans per PPI) (1.25 Gm / 250 ml)	2-20 mcg / kg / min 40 mcg / kg / min have been used, but this increases risk of toxicity.	24 hrs  14 days after remov. from Abbott overwrap.	NS - 24 hrs
<b>Dopamine</b>	<b>Standard Dilution: 800 mg / 500 ml D5W premix</b> <b>Concentration: 1,600 mcg / ml (1.6 mg / ml)</b>  Maximum concentration: 3,200 mcg / ml (3.2 mg / ml) 800 mg / 250 ml	Low: 2-5 mcg/kg/min Med: 5-30 mcg/kg/min High: 30 mcg/kg/min  Doses > 20 mcg/kg/min decrease renal perfusion.	48 hrs  7 days after removing from Abbott overwrap.	NS - 48 hrs
<b>Epinephrine</b> (Adrenalin)	<b>Standard Dilution: 2 mg / 250 ml D5W</b> <b>Concentration: 8 mcg / ml</b>  Double Concentration: 4 mg / 250 ml (16 mcg/ml) Quadruple Conc: 8 mg / 250 ml (32 mcg/ml)	Low: 1-2 mcg/min Med: 2-10 mcg/min High: 10-16 mcg/min	48 hrs	NS - 48 hrs

<b>Esmolol</b> (Brevibloc)	<b>Standard Dilution: 2.5 Gm / 250 ml NS premix</b> <b>Concentration: 10 mg / ml</b> Do NOT give 2.5 Gm vials UNDILUTED.  Maximum Concentration: 10 Gm / 250 ml (40 mg / ml) per Abbott Info.	LD: 500 mcg/kg from the ready to use vial (10 mg/ml) over 1 minute.  Infusion: 50 mcg/kg/min titrated up to maximum of 200 mcg/kg/min -- see PPI.	24 hrs	D5W - 24 hrs
<b>Fenoldopam</b> (Corlopam)	<b>Standard Dilution: 10 mg / 250 ml NS</b> <b>Concentration: 40 mcg / ml</b>  Fluid restricted patients: Can give 10 mg / 100 ml NS (100 mcg / ml) Mosby 2003 IV Medications	initial dose :0.03 - 0.1 mcg/kg/min and increase every 15 mins by 0.05-0.1 mcg/kg/min based on response Maximum recommended dose: 1.7 mcg/kg/min.	24 hrs	D5W - 24 hrs
<b>Heparin</b>	<b>Standard Dilution: 25,000 units / 500 ml D5W</b> <b>Concentration: 50 units / ml</b> Also, 25,000 units / 500 ml 0.45% NaCl Concentration: 50 units / ml	Per weight based protocol.	90 days after remov. from Braun overwrap.	
<b>Insulin</b>	<b>Standard Dilution: 250 units / 250 ml NS</b> <b>Concentration: 1 unit / ml</b>  RN to flush 50 ml through tubing to saturate sites that will adsorb insulin.	No filter	24 hrs	N/A
<b>Isoproterenol</b> (Isuprel)	<b>Standard Dilution: 1 mg / 250 ml D5W</b> <b>Concentration: 4 mcg / ml</b>  Double Conc: 2 mg / 250 ml (8 mcg / ml) Quadruple Conc: 4 mg / 250 ml (16 mcg / ml)  Maximum Concentration: 25 mg / 250 ml D5W (100 mcg / ml)	0.05 - 10 mcg / min	24 hrs	NS - pH is higher and at pH > 6 = drug is degraded.
<b>Labetalol</b> Trandate	<b>Standard Dilution: 200 mg / 160 ml NS</b> <b>(total volume = 200 ml) Conc: 1 mg / ml</b>  May give 20 mg undiluted over > 2 minutes and may repeat 40 - 80 mg every 10 minutes until effect or 300 mg maximum total dose.  Maximum Dilution: 375 mg(75mls)+25 ml NS (total volume = 100 ml) Conc: 3.75 mg / ml	Alternative infusion: 2 mg / minute via continuous infusion.	72 hrs	D5W - 74 hrs
<b>Lepirudin</b> (Refludan)	<b>Standard Dilution: 100 mg / 250 ml NS</b> <b>Concentration: 0.4 mg / ml (400 mcg / ml)</b>	Give bolus + infusion. Dose is weight and renal dependent -- see package insert.	24 hrs	D5W - 24 hrs
<b>Lidocaine</b>	<b>Standard Dilution: 2 Grams / 500 ml D5W Premix</b> <b>Concentration: 4 mg / ml</b>  Maximum Concentration: 4 Grams / 250 ml (16 mg / ml)	1 - 4 mg / minute (20 - 50 mcg/kg/min). Do not exceed 4 mg/min	30 days after removing overwrap.	NS - 24 hrs

<b>Lorazepam</b> (Ativan)	<b>Standard Dilution: 24 mg / 120 ml D5W (GLASS ONLY) Concentration: 0.2 mg / ml.</b> Mix as follows: 24 mg lorazepam (12 ml) + 14 ml SWFI – add this mixture to 94 ml D5W to make a total volume of 120 ml.  Mixing in GLASS ONLY will help prevent precipitation. PPT problems thought to be due to propylene glycol preservative.  DO NOT DOUBLE CONCENTRATE -- WILL PPT!	Use microdrip set and titrate to achieve adequate sedation. Up to 5 - 10 mg / hr has been used, but titrate to lowest effective dose. Usually START at 1 mg / hr.	24 hrs in GLASS  Protect from light.	NS - 24 hrs GLASS -- NS can be used as diluent but more prob. with ppt.
<b>Metaraminol</b> (Aramine)	<b>Standard Dilution: 100 mg / 250 ml D5W Concentration: 0.4 mg / ml (400 mcg / ml)</b>	Bolus: 0.5 - 5 mg (diluted) direct IV only in severe shock. Infusion: titrate to maintain BP @ desired level - allow at least 10 min before increasing dose.	24 hrs	NS - 24 hrs
<b>Midazolam</b> (Versed)	<b>Standard Dilution: 50 mg / 40 ml NS (total vol will be 50 ml) Concentration: 1 mg / ml</b>	Titrate to effect. Typical adult loading dose = 0.5 to 4 mg over several minutes, then titrate infusion to lowest effective dose (usually 1 - 7 mg /hr for maintenance).	24 hrs	D5W - 24 hrs
<b>Milrinone</b> (Primacor)	<b>Standard Dilution: 20 mg / 100 D5W Premix Concentration: 0.2 mg / hr (200 mcg / ml)</b> **withdraw bolus from infusion bag.  Maximum Conc: 100 mg / 250 ml NS or D5W Concentration: 0.4 mg / hr (400 mcg / ml)	Loading dose: 50 mcg / kg (drawn from bag) over 10 minutes, then infusion of 0.5 mcg / kg / min.	72 hrs  30 days after remov. from Abbott overwrap.	72 hrs
<b>Nicardipine</b> (Cardene)	<b>Standard Dilution: 25 mg + 240 ml NS (total volume = 250 ml) Conc: 0.1 mg / ml</b>  Maximum Conc: 0.5 mg/ml *Max Conc Must be administered via central line*	Initiate at 5 mg/hr. May increase BY 2.5 mg/hr every 5-15 min to a maximum of 15 mg/hr. After reaching BP goal, decrease to 3 mg/hr.	24 hrs	D5W - 24 hrs
<b>Nitroglycerin</b>	<b>Standard Dilution: 50 mg / 250 ml GLASS Premix Concentration: 0.2 mg / ml (200 mcg / ml)</b>  Maximum Conc: 250 mg / 250 ml D5W or NS (1 mg / ml).	5-20 mcg / min titrate to response. NO FILTER	MFG exp date on bottles.	NS - GLASS 24 hrs
<b>Nitroprusside</b> (Nipride)	<b>Standard Dilution: 50 mg / 250 ml D5W Concentration: 0.2 mg / ml (200 mcg / ml)</b> Must be diluted. Wrap in provided opaque material to protect from light.  Maximum Conc: 200 mg / 250 ml D5W (0.8 mg / ml ) (800 mcg / ml) per Abbott info. Company only supports our standard dilution of 50 mg / 250 ml D5W (0.2 mg / ml).	0.3 - 10 mcg / kg / min. Never exceed 10 mcg/ kg/min. Cyanide toxicity can occur with as little as 2 mcg / kg / min. Measure blood thiocyanate levels daily if dose is 3 mcg/kg/min (1 mcg/kg/min in the anuric patient).	24 hrs if properly protected.	NS - not recommended by mfg.

<b>Norepinephrine</b> (Levophed)	<b>Standard Dilution: 4 mg / 500 ml D5W</b> <b>Concentration: 8 mcg / ml</b>  Maximum Concentration: 32 mg / 250 ml D5W Concentration: 128 mcg / ml (per Abbott info)	0.5 - 1 mcg/min up to maximum of 30 mcg/ min and adjust to maintain desired BP range (usually 2-4 mcg/ minute).	24 hrs	May dilute in D5NS, but plain NS not recommended by mfg.
<b>Octreotide</b> (Sandostatin) ( <i>Somatostatin analog</i> )	<b>Standard Dilution: 500 mcg / 250 ml NS</b> <b>Concentration: 2 mcg / ml</b> (Check with MD if starting dose > 25 mcg/hr -- endogenous somatostatin was used in studies at 250 mcg/hr and this was NOT the somatostatin analog.)	GI bleeding: 25-50 mcg/hr usual dose.  GI tumors: 25-50 mcg/ hr range.	24 hrs	D5W - 24 hrs
<b>Oxytocin</b> (Pitocin)	<b>Standard Dilution: 20 units / 1 liter LR</b> <b>Concentration: 20 milliunits / ml (0.02 units/ml)</b>	0.5 - 1 milliunits / min and titrate.	24 hrs	NS -24 hrs D5W - 24 hrs
<b>Pancuronium</b> (Pavulon)	<b>Standard Dilution: 100mg(100ml)/100ml IN NS</b> <b>concentration 0.5mg/ml(total vol 200ml)</b>  MUST BE INTUBATED WITH MECHANICAL SUPPORT FOR VENTILATION.	LD: 0.03-0.1 mg/kg MD: 0.06-0.1 mg/kg/hr	48hr	D5W - 48 hrs  Monitor with periperal nerve stimulator
<b>Phenynephrine</b> (Neo-Synephrine)	<b>Standard Dilution: 10 mg / 250 ml D5W</b> <b>Concentration: 0.04 mg/ml (40 mcg/ml)</b>  Double Conc: 20 mg/250 ml (80 mcg/ml) Quadruple Conc: 40 mg/250 ml (160 mcg/ml)  Maximum Conc: 250 mg/250 ml (1 mg / ml) (1,000 mcg/ ml) per Abbott info	Severe hypotensive shock or drug-related hypotension: Begin at 100 to 180 mcg/min and maintain with 40 to 60 mcg/min titrating to desired effect.	48 hrs	NS - 24 hrs
<b>Procainamide</b> (Pronestyl)	<b>Standard Dilution: 1 Gram / 250 ml NS</b> <b>Concentration: 4 mg/ml</b>	Give loading dose of 200 - 1,000 mg in 50 -100 ml NS over 30 minutes. Infusion: 1-4 mg/min up to 6 mg/min.	24 hrs	D5W - 8 hrs
<b>Propofol</b> (Diprivan)	<b>Standard Dilution: 1 Gram / 100 ml (10 mg / ml).</b> Change bottle and tubing every 12 hours.  Name brand Diprivan does NOT contain sulfites (small amount of name brand kept in surgery pharmacy). Generic DOES CONTAIN SULFITES.	5 - 50 mcg/kg/min. Do NOT filter.  1 ml = 0.1 Gm fat = 1.1 kcal.	12 hrs	N/A
<b>Vasopressin</b> (Pitressin)	<b>Standard Dilution: 100 units / 100 ml NS</b> <b>Concentration: 1 unit / ml</b>	0.2 - 1 unit/min for bleeding 0.01-0.04 unit/min adjuvant for shock	24 hrs	D5W
<b>Vecuronium</b> (Norcuron)	<b>Standard Dilution: 50 mg / 450 ml NS (total volume = 500 ml)</b> <b>Concentration: 0.1 mg/ml (100 mcg/ml)</b>  MUST BE INTUBATED WITH MECHANICAL SUPPORT FOR VENTILATION.	Intubation Dose: 80-100 mcgm/kg, then infusion of 50-100 mcg/ kg/hr. (May be preferred pts with renal failure).	24 hrs	D5W - 24 hrs  Monitor with peripheral nerve stimulator.

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References: Individual drug package inserts, Trissel's Handbook on Injectable Drugs - 10th Edition, 2003 Mosby's Intravenous Medications Ninteenth Edition, Information from Abbott Laboratories, Baxter Laboratories, Braun Medical.  
references in file